



The Resonator

Official Newsletter of The Fair Lawn (NJ) Amateur Radio Club

Volume 5, Number 4

www.FairLawnARC.org

April 2020

From The President:

Dear members,

We had started 2020 full speed ahead, but things have shifted during the past weeks where we have needed to adapt to a different way of life temporarily. Nevertheless, we have stayed together through the Health and Welfare Net every night at 7:00pm on the FLARC Repeater, and recently on the NJ2BS Repeater. We thank Gordon, W2TTT and Bob, KD2BKD for making this possible.

Also, on April 3rd, we had our first virtual FLARC Business meeting which was a huge success with over 40 participants. This truly demonstrated that we can continue to enjoy what our club offers via alternative platforms with success. This gives us a chance to continue our coffee talks and even our guest speakers via Zoom, Skype, etc. So, we'll let you know as soon as we can schedule any of these for you. Don't forget to check out FLARC's YouTube page where you can go back and enjoy many of our past speakers and their presentations.

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FLARC BEGINS NIGHTLY HEALTH AND WELFARE NET DURING COVID-19 CRISIS

In one of the first of its kind efforts in the nation, FLARC has created a nightly health and welfare net for its members and guests every night at 7PM on the FLARC repeater. A second repeater has been added to increase reach and participation (see separate story).

The net welcomes everyone whether they are FLARC members or not. It is designed to keep in touch in these times of isolation and to pass along relevant information regarding the crisis and its impact on amateur radio.

The first "net" took place on Friday, March 13th, when we would have been at the club. Ron KC2TBD, Gene WO2W, Stan KC2K, and David KD2MOB were talking and Ron suggested we should have a daily net meeting especially during times of isolation. The four agreed and passed it to the Council and publicity committee.

Attendance now averages close to twenty per evening, with one night reaching thirty. The net has moved to an earlier 6:45 PM start to accommodate everyone. Check-in's have come from Florida, upstate New York, southern New Jersey and Pennsylvania.

A big TNX and tip of the red FLARC cap to Dave KD2MOB, Brian KD2KLN, and Nomar, NP4H for taking on the bulk of the net control duties. As this net grows, it can always use more volunteers... contact any of the three to help.

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Fellow FLARC Members,

As we all know, the coronavirus is top of the news and that the club is closed until further notice. Out of an overabundance of caution and our care for your safety, all FLARC events are postponed until further notice due to COVID-19.

We will monitor the situation with regards to re-opening the club and the use of both the Recreation and Senior Centers in coordination with the Borough.

Check in on our nightly health and welfare net on the W2NPT repeater at 6:45 PM and let us know how you're doing. You may be isolated at this time but you are not alone.

We want to continue to draw your attention to The Centers for Disease Control and Prevention (CDC)'s preventative measures to help ensure the health and safety of our members:

1. Avoid close contact with people who might be sick.
2. Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
3. Avoid touching your eyes, nose, and mouth.
4. Clean and disinfect frequently touched objects and surfaces.
5. Stay home when you are sick, except to get medical care.
6. Wash your hands often with soap and water for at least 20 seconds.

Some videos with important info about hand washing: CDC and WHO.

For further information and to keep up-to-date please visit the CDC website.

<https://www.cdc.gov>

Thank you for your attention and care. Stay safe.

73

Nomar NP4H

April 4, 2020

The Club Fair Lawn ARC is the fastest growing ham club around, with five operating positions in a permanent clubhouse. Visitors and guests are always welcome. The club is open every Friday night from NLT 6:30 PM. Business meetings are the first Friday of the month at 7:30PM.

2020 Officers, Committees and Assignments

President	Nomar Vizcarrando	NP4H
Vice President	John L. Howard	W2JLH
Treasurer	Al Rasmussen	WA2OWL
Secretary	Randy Smith	WU2S
Trustee	Skip Barker	KD2BRV
Trustee	Ed Efchak	WX2R
Trustee	Don Cassarini	N2PRT
Field Day	Steve Wraga	WA2BYX
Member Services	Judith Shaw	KC2LTM
Publicity	Ed Efchak	WX2R
Publicity	Gene Ottenheimer	WO2W
Publicity	Judith Shaw	KC2LTM
Publicity	Susan Frank	W6SKT
Program	Lowell Vant Slot	W2DLT
Publicity	Karl Frank	W2KBF
Publicity	Nomar Vizcarrando (ex officio)	NP4H
Social Media	Dave Marotti	NK2Q
Video/YouTube	Thom Guida	W2NZ
VE Liaison	Gene Ottenheimer	WO2W
VE Liaison	Pete Senesi	KD2BMX
Education	Gordon Beattie	W2TTT
Education	Randy Smith	WU2S
Education	John L. Howard	K2JLH
Education	Fred Wawra	W2ABE
History	Fred Belghaus	W2AAB
Health and Welfare	Judith Shaw	KC2LTM
Photographer	Don Cassarini	N2PRT
W2NPT Trustee	Paul Cornett	W2IP
Technical	Paul Cornett	W2IP
Technical	Randy Smith	WU2S
Technical	Fred Wawra	W2ABE
RACES Director	Dave Gotlib	KD2MOB
RACES Liaison	Steve Wraga	WA2BYX
Newsletter Editor	Ed Efchak	WX2R
FL Town Liaison	Gene Ottenheimer	WO2W
Net Scheduler	Brian Cirulnick	KD2KLN
Quartermaster	Brian Cirulnick	KD2KLN

Fair Lawn RACES/ARES Corner



What Is There To Do For Us Hams When The Recreation Center Closes?

As everyone is aware, the Fair Lawn Community Center, which houses the FLARC as well as all other facilities in Fair Lawn and the State have shut down due to the COVID-19 Coronavirus outbreak.

FLARC usually meets every Tuesday, Thursday and Friday at the Fair Lawn Community Center. The very first day the Center was closed was Friday, March 13th, so I decided to contact the W2NPT Repeater at 7:00 PM that Friday to say hi and see if there was any conversation. Sure enough, Ron KC2TBD, Stan KC2K, Gene WO2W and I (KD2MOB) had a little rag chewing. After a few minutes Ron KC2TBD suggested that we should have a conversation every day at 7:00 PM to see how everyone is doing, especially during these times of isolation.

I brought this suggestion to the Board and within the hour they said go right ahead and hold a Health and Welfare Net. An email was sent to everyone the morning of Saturday, March 14th and the rest is history.

It is very important during these troubling times to reach out to the amateur radio community to see what is happening, to check if anyone needs assistance of any kind and just to reach out to say hi.

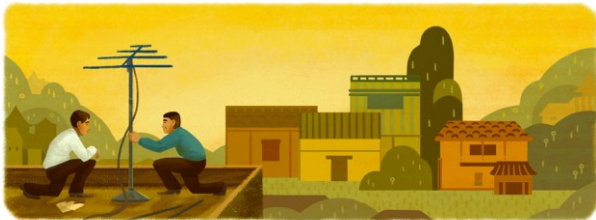
A friendly voice on the air brings out the best in humankind.

Continued on page 46.

MASTER EVENT CALENDAR

**Out of an overabundance of caution and our care for your safety,
all FLARC events are postponed or rescheduled until further notice due to COVID-19.**

- March 20, 2020 Wayne Smith WB2ONZ "The Civil Air Patrol: A Contemporary View"
—Senior Center **TO BE RESCHEDULED**
- April 17, 2020 Rich Moseson W2VU "75 Years of CQ Magazine"
— Senior Center **TO BE RESCHEDULED**
- April 18, 2020 World Radio Day Operating Event **(tentative)**
- April 22, 2020 Special Event Station At Great Falls With National Park Service **(tentative)**
- May 15, 2020 Al Klase "Broadcast Band DX'ing" – Senior Center **(tentative)**
- June 14, 2020 Fair Lawn Spring Street Fair (Radburn) **(tentative)**
- June 27-28, 2020 ARRL FIELD DAY – Memorial Park **(tentative)**
- July 17, 2020 Neil D Goldstein W2NDG "Raspberry Pi And Digital Operating"
— Senior Center
- August 21, 2020 FLARC 3rd Annual Vintage Night – Senior Center
- September 18, 2020 Lowell Van't Slot W2DLT "Working the CQWW SSB Contest At A Caribbean
Superstation" – Senior Center
- October 16, 2020 Hal Kennedy N4GG "Spark At FLARC" Via Skype – Senior Center
- October 18, 2020 Fair Lawn Fall Street Fair (River Road)
- TBD Return Visit To iHeartRadio/WSUS transmitter
- TBD Field Trip to Sarnoff Center, Princeton
- ** 2nd Friday of month**



Hidetsugu Yagi's 130th Birthday Google Doodle

Follow FLARC ON THE WEB

Facebook: <http://facebook.FairLawnARC.org>

Twitter: @FairLawnARC

Blog: <http://blog.FairLawnARC.org>

Youtube: <http://youtube.FairLawnARC.org>

FLARC VEC Exams

**All FLARC events are postponed or rescheduled until
further notice due to COVID-19.**

Our next test sessions are scheduled **TBD** beginning at 09:00 at the Community Center. No advanced registration is required but always appreciated. The fee is \$15.00 (cash or check).

Please bring positive identification (license, passport, etc.), your original license and a copy, original CSCE and a copy (if credit is needed).

The full exam schedule is on the club calendar at the FairLawnARC.org website. For further information contact VE-Liason@FairLawnARC.org.

Please refer also to the "License Exams" link on the main website--

<http://bit.ly/FLARC-Testing>

We appreciate your support of the Fair Lawn Amateur Radio Club!

This is your Club! Be part of it!

Interested in Chasing DX?

A casual group of FLARCs including Van W2DLT, John KD2NRS, Brad KM2C, Karl W2KBF, Nomar NP4H, Steve WI2W, Jim W2JC, Larry WA2ALY and Fred W2AAB have formed an email group to keep each other in touch in (real) time of when the rare or interesting ones show up to chase.

Interested? See or contact Van W2DLT.

Answer The Census!

Coming in late March you'll be required by law to complete your US Census form. The club is an active sponsor of Fair Lawn's Complete Count 2020 initiative, so your support is important.



Equipment Problem?

If you encounter a piece of club equipment, instrument or tool that is not working correctly or is broken in any way, we now have a Trouble Report form that you can use to describe the problem and report it to the Technical Committee -- who will arrange for repair.

The form can be found on the literature rack across from Position 2.

2020 -- The Year of Learning!



Brad KM2C talks through the Flex equipment to kick off the Year of Learning on January 10th

Please Note: Operating at W2NPT

Starting in January 2019 club trustees have sign-in sheets for all operating positions. There is a clipboard at Operating Position #1, #2 (digital) and #4 with a form on which to sign up for half-hour time slots. No longer first come-first served, in fairness to all who want to use our club equipment and the new antennas.

Get Direct With FLARC!

Here is a direct link to specific club info: just a click away!

<http://apparel.FairLawnARC.org>
<http://auction.FairLawnARC.org>
<http://blog.FairLawnARC.org>
<http://calendar.FairLawnARC.org>
<http://events.FairLawnARC.org>
<http://exams.FairLawnARC.org>
<http://facebook.FairLawnARC.org>
<http://news.FairLawnARC.org>
<http://swap.FairLawnARC.org>
<http://tech.FairLawnARC.org>
<http://youtube.FairLawnARC.org>

NEW !

<https://groups.io/g/FairLawnARC>



March 2020 Blog Traffic

With coronavirus dominating the news, both visitors and page views to the blog were down this month.

	March 2020	March 2019	% Change
Views	324	644	-49%
Visitors	127	392	-68%
Posts	7	5	+40%

There is new content nearly every day so it's really worth the look at both FairLawnARC.org and the blog.

<http://blog.FairLawnARC.org>

W2NPT-R Is Linked During COVID-19 Crisis To Expand Reach And Contact

Beginning on Tuesday, March 24th W2NPT has been linked with a nearby repeater to expand our geographic reach during the coronavirus epidemic.

W2NPT/R 145.47 PL 167.9 Hz in Fair Lawn, NJ and NJ2BS/R 146.835 PL 151.4 Hz in Pearl River, NY have now been linked.

According to Gordon W2TTT, "We had good representation geographically via these repeaters and the Echolink itself. I'm not sure how the W2NPT/R is connected to Echolink, but KD2BKD-L provided by Bob KD2BKD supports the Echolink for NJ2BS/R. We set a record the first night for check-ins."

A large measure of thanks to Gordon W2TTT, Bob KD2BKD, Paul W2IP, Jim W2JC, Nomar NP4H and others for their joint efforts.

More to come on this.

FLARC Gets Recognition For Creating Nightly Health And Welfare Net

The newly created FLARC Health and Welfare net has caught the eye (ear?) of the *Ham Radio Nation* podcast. Bob Heil, who does the weekly podcast with Gordon West, has reached out to Ed WX2R for a possible interview on the topic.

The net has also received mentions on the ARRL bulletins, *QRZ* and *Southgate (UK) Amateur Radio News* and the *ICQ* podcast in the United Kingdom.

STAY SAFE!
Radio Is Contagious
And It Won't Make You Sick.

Club Apparel — Get Them While They're **RED!**

Club apparel is always in vogue. Red is always "in" and your club friends all have them... you *want* a shirt or jacket for the next FLARC event! Great for Field Day!

Don't forget.... they're easy to order.

Go to www.hamthreads.com

or visit <http://apparel.FairLawnARC.org>

Check out the item selection that is posted on the FLARC website (with pictures and prices). Order the shirts or other items you want with either the regular FLARC logo or the still-cool 60th anniversary logo. Note: **RED** is the primary and preferred club standard shirt color.

And why not WEAR your nice red shirt when you come to the club, especially for meetings & events.



Thom W2NZ has his FLARC colors on whilst shooting club videos.

2020 FLARC Speaker Series Locations:

SPEAKERS WHO ARE FLARC MEMBERS:

FLARC CLUBHOUSE

SPEAKERS WHO ARE INVITED GUESTS:

FAIR LAWN SENIOR CENTER

MEMBER DUES DEADLINE EXTENDED TO MAY 31ST

Given the current coronavirus situation, the FLARC Council has agreed to extend the deadline for 2020 member dues from March 31st until May 31st. The Council has recognized that members might have wanted to pay in-person at the Club prior to deadline or may require more time to pay given the disruption of jobs and/or work schedules.

Annual dues remain at \$25 and can be sent via mail to FLARC Treasurer, Al Rasmussen, 10 S. Shore Rd, Denville NJ 07834. Make all checks payable to "Fair Lawn Amateur Radio Club".

New member dues are \$20 and an application can be found at the club's website, www.FairLawnARC.org. Any questions can be directed to either Nomar NP4H (President) or Al WA2OWL (Treasurer).

BEQUEATHS AND DONATIONS

Planned gifts usually imply the family donation of amateur equipment to the club when someone has become a Silent Key. But it can be more. Club members might consider making a gift through a will or trust; gifts that help provide lifetime income to the club. Consult with your lawyer, estate planner or tax advisor if you feel such as gift is worthy.

About The Club

The Resonator is published monthly and is the official (and only) newsletter of The Fair Lawn Amateur Radio Club. FLARC was established in 1956 and has met continuously since inception. **The club is sponsored by the Borough of Fair Lawn.** The club meets every Friday at 6PM at the club station in The Fair Lawn Community Center, 10-10 20th Street, Fair Lawn, NJ. Business meetings are the first Friday of the month at 7:30 PM.

Visitors **ARE ALWAYS** welcome at our meetings.

FLARC operates the W2NPT repeater (145.470- PL 167.9) located high atop the Community Center. The analog repeater is open to all amateurs for use without restrictions.

The club has over one hundred paid members.
Dues are currently \$25 per year/\$20 for new members.

For more information, please see our website, at
<http://membership.FairLawnARC.org>

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"POP-UP TUESDAYS" ARE ON HOLD

**Check the club calendar, the club website
and your email each week to check when
we will resume.**

PUBLICITY COMMITTEE NEWS

The Publicity Committee is seeking new members to help grow the club with its varied activities. Enthusiasm desired... no experience necessary. Contact Ed WX2R or any other committee member.



FAIR LAWN'S COMMUNICATIONS CENTER! *With New Antennas On The Roof!*



2020 Near and Far Net Check-In's

Now in its third year, the FLARC *Near and Far* net is chugging along each week. Here is list of our check-ins beginning on New Year's Night in no particular order. Mondays at 8PM on the repeater.

Call	Name
N2AAM	Dave
WO2W	Gene
W2DLT	Van
KD2MOB	Dave
W2JC	Jim
WI2W	Steve
N2SU	Bob
N2OEL	Noel
WX2R	Ed
W2AAB	Fred
KD2KLN	Brian
W2MSA	Noel
W2KBF	Karl
AC2ZU	Charlie
W3EH	George
KC2TBD	Ron
TG9AOR	Joe
N2OEL	Noel
N2JLF	Jim
W2TAB	Tom
KC2TBD	Ron
KA2YRA	Steve
WA2BYX	Steve
KD2BKD	Bob
KC2K	Stan
KA2YRA	Steve
WA2CCN	Hank
W2TTT	Gordon
NJ8Y	Ahmed
NJ2BK	Bruce
W2CQX	Dan
W2KNG	Jim
WK2T	Lee
W2NZ	Thom
K2PD	Don
KD2JIP	Dave
K2ZVL	Van
KC2ASA	Peter
W2AAB	Fred

2019-20 Member Profiles

The year is now complete and here is a list of the 2019 monthly profiles. See past profiles elsewhere in *The Resonator* to check back in the archives to see each featured member's background.

Month	Name	Call Sign
January 2019	Dave	KD2JIP
February	Jim	K2ZO
March	Zach	KC2RSS
April	Bob	N2SU
May	Stan	KC2K
June	Steve	WA2BYX
July	Roger	K2RRB
August	Judith	KC2LTM
September	Chris	W2TU
October	Bob	N2SU
November	Bob	WA2ISE
December	Carol	KD2NMV
January 2020	Gordon	W2TTT
February	Chris	KD2JQZ
March	Glenn	KD2MDR
April	Steve	K2SAB

Congratulations!

The March VE testing session was cancelled due to the cononavirus pandemic. So ... no test session results.

Name	Call	New License
No activity		



Past FLARC Member Profiles

Here is a list of past member features and we welcome your recommendations for new profiles -- including your own.

Month	Name	Call Sign
January 2016	Pete	KB2BMX
February	Marco	KC2ZMA
March	Ron	KC2TBD
April	Kai	K2TRW
May	Larry	WA2ALY
June	Dave	N8MAR
July	Steve	WI2W
August	Thom	W2NZ
September	Brian	KD2KLN
October	Brad	KM2C
November	Al	WA2OWL
December	George	W3EH
January 2017	Fred	W2ABE
February	Dave	KD2MOB
March	Randy	WU2S
April	Lee	KD2DRS
May	Gene	WO2W
June	Carol	KD2NMV
July	Kevin	KC2KCC
August	Robert	KD2NOG
September	Robert	KD2BKD
October	John	KD2NRS
November	Fred	W2AAB
December	Margaret	W2GB
January 2018	Brian	KD2OAZ
February	Bennett	KO2OK
March	Van	W2DLT
April	Aly	ALØY
May	Bruce	NJ2BK
June	Dave	N2AAM
July	Karl and Susan	W2KBF and W2SKT
August	Steve	KA2YRA
September	Paul	K2PJC
October	Skip	KD2BRV
November	Ed	WX2R
December	Tom	N2AAX

By the way, Randy (WU2S) has compiled a binder of all back issues of *The Resonator* and it's located in the club office. Thanks Randy!!!

Blood Donors Needed In This Time Of Emergency

The Red Cross and related organizations are in great need for blood donations since most corporate blood drives have been cancelled.

Communitybloodservices.com has a network of offices open during the week and would really welcome folks making appointments to donate blood.

Thanks!



American Red Cross

Sometimes You Open The Mail And You Never Know What You'll Find

Roger K2RRB got a surprise when he checked his mailbox. As Roge noted. "Check this out!!! Hope it's real. I didn't even realize what I did!!"

A quick check of QRZ shows that the call appears to be legitimate. Funny what FT8 can do.



Member Profile

NAME: **Steven Boston** CALL: **K2SAB**

How did you get interested in ham radio?

I sold wireline and wireless equipment for AT&T and Sprint. After the 2008 financial collapse, I worked in the mortgage and insurance business.

What parts of the hobby most interest you?

I was originally traveling to AT&T HQ in Basking Ridge on I-287 and I tried CB (citizens band). My "Elmer" Pete Malvasi of Ramsey (W2PM) told me get a "real" radio and I took a class. I passed my Technician and started on my General, passing both my Morse code and written tests which were required at the time.

What does belonging to FLARC mean to you? How do you/can you better contribute to the club?

I'm a VE, I enjoy the testing group. I can't make Friday night meetings, so a different time would work better for me. And ...maybe, Zoom?

What should be the club's priorities in the next year?

New members and bring people into the hobby.

It would be nice to have more and broader repeaters, but I know that's hard. A DMR group that's available via the internet.

What else can you tell the club about yourself and/or ham radio?

I've just starting to travel more. My wife and I purchased our first RV. I hope to install a new 2M and 440 radio that I purchased at Orlando this year.

What other ham related clubs or organizations do you belong to?

None.. only FLARC.



Steve K2SAB

Looking To Upgrade Your License? Here Are Some Classes To Help!

Here is the summary of classes offered by our friends at the ARC² Radio Club during 2020.
[Dates are dependent on end of current emergency.]

Amateur Extra License Radio Class

June 6, Saturday, 9 am to 4 pm

June 7, Sunday, 9 am to 3 pm

General License Radio Class

September 19, Saturday, 8 am to 4:30 pm

September 20, Sunday, 8:30 am to 3 pm

Technician License Radio Class

November 21, Saturday, 8 am to 4 pm

November 22, Sunday, 9 am to 3 pm

Location:

Fairfield Red Cross Office

209 Fairfield Road, Fairfield, NJ 07004

Instructor: Bill Kelly

NB1LL.ARC2@gmail.com

201.615.8132

April 2020 Near and Far Net Controls

Here is the roster for net controls for the upcoming month as reported by Brian KD2KLN:

Date	Net Control
May 4	NP4H
May 11	KD2MOB
May 18	KD2KLN
May 25	N2AAM

The Near and Far Net now averages close to 20 check-ins on an average week! Cool beans.

But we need more volunteers to be net controls - if everyone takes their turn it's less burden on the others. And it's easy.

Volunteer --- don't wait to be asked (unless you really want to be flattered).

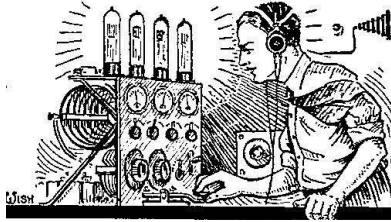


Image from May, 1926 QST, courtesy ARRL

The Way We Were -- By Fred Belghaus W2AAB

Some Crazy (and not so crazy) Ideas from the Past

Old technical periodicals can provide many fascinating insights into the historical developments in science and technology over the past century. They can also provide some comic relief when the ideas proposed long ago look rather silly now, or much too dangerous. In my technical literature archive are some issues of *The Electrical Experimenter* dating from the period April, 1915 through October, 1916.

These issues contain some truly fascinating material, including circuits for early wireless transmitters and receivers, and information on industrial, military, and medical applications of electricity and wireless. Some of these ideas are quite clever; others, intriguingly familiar, in that they foreshadow later, similar developments in these areas. Some, frankly, are either impractical or utterly ridiculous.

This month, I will give some examples, and I think you will share my surprise at the cleverness of some, and also get a belly laugh or two at the others.

The Electrical Experimenter was one of several magazines published by Hugo Gernsback. Gernsback was an inventor, one of the earliest radio amateurs in pre-license days, and famous publisher of magazines dealing with science and technology.

He was also one of the first magazine publishers of science fiction. He was fascinated by the work of Nikola Tesla, discoverer of alternating current and holder of many patents in the early 20th Century. Several articles appear in his magazine either written by Tesla, or articles by other authors describing Tesla's current work.

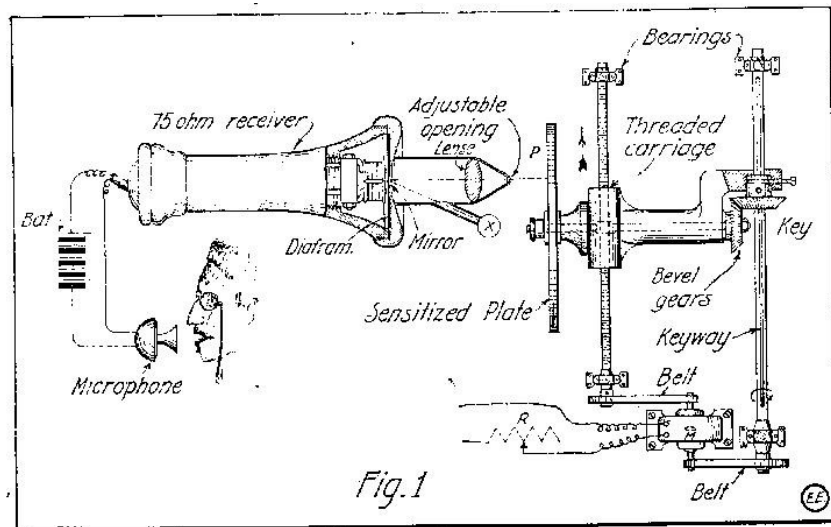
We begin our tour with the April, 1915 issue of *The Electrical Experimenter*. In this issue are described both serious and silly ideas.

The first one, not silly at all, describes a scheme developed by a Mr. Samuel Wein of New York, to make sound recordings using a modulated light beam. An ordinary telephone carbon microphone is powered by a battery, the output of which is connected to a modified telephone receiver (one headphone). Attached to the headphone's metal diaphragm is a tiny mirror.

A light source hits the mirror and is reflected off it, then focused through a lens. The lens concentrates the light beam onto a blank, specially treated photographic disc which is rotated at a slow, constant speed. As the sound modulates the light beam, grooves are formed on the disc, the widths varying according to the amplitude and frequency of the modulating sound.

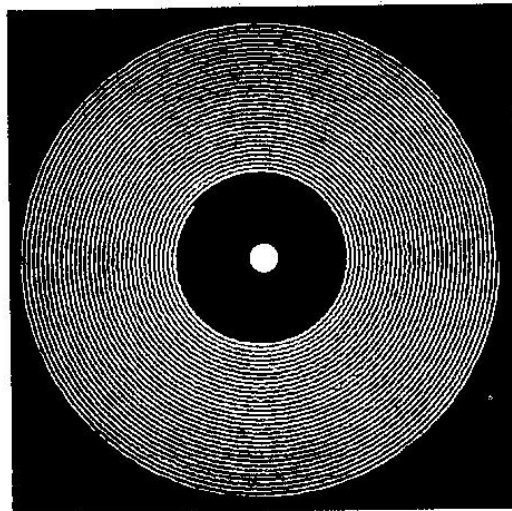
The Way We Were

Here's a diagram of the apparatus:



Scheme for recording the voice photographically.

Actually, this principle is similar to the method used 14 years later in producing "talkies," motion pictures with a soundtrack added to the film. But look at the disc. It looks more like a Laser disc, only one developed 60 years earlier.



How the voice record appears as produced by beam of light

Wein's system was quite a departure from the acoustic recordings of the day, which were made on wax discs cut by a stylus. Wein went on to be awarded more than 100 patents in electronics, plastics, photography and chemistry, and was a pioneer in both sound-on-film and television. [1]

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The Way We Were

How about an electrically induced anesthetic? Well, Dr. Louise G. Rabinovitch of New York developed an apparatus employing a direct current passed through a 100 Hertz (actually cycles per second, back then) interrupter, with electrodes applied to the body where a surgical procedure is to be performed. Each interruption caused an impulse lasting only 1/1000 of a second. An interrupter is really a type of induction coil with a set of contacts, and when a DC voltage is applied, produces a small spark across those contacts, like those on a buzzer. I think the frequency can be changed by adjusting the spacing on those contacts.

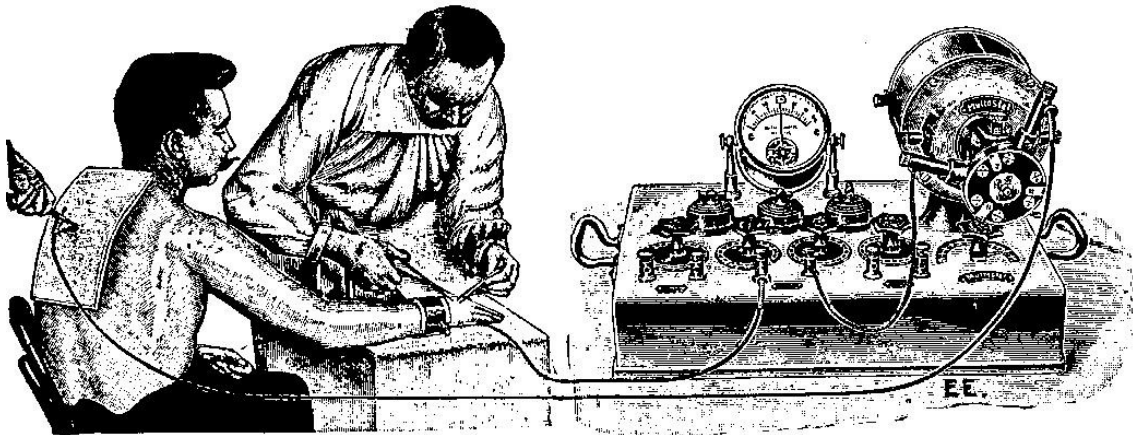


Fig. 1. Showing application of electrical anaesthesia.

The claimed result is to provide an anesthetic to the affected area, or to induce sleep in the patient. Earlier experiments were successfully conducted upon rabbits, which put the animals into a sleep state. Frankly, I'd rather take my chances with more conventional methods.

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From the September, 1915 issue comes a detailed article entitled, “The Wonders of Radium.” The article gives a general description of this material and its properties, and shows how a magnet can deflect the Alpha and Beta rays emitted by it. It goes on to explain that only the metal lead is completely opaque to radium’s rays, and how radium can discharge a charged electroscope when brought near it.

An example of radium photography is shown, and a statement is made that if a clock is powered by radium, it would continue to operate for 2,500 years. One early experimenter made an investigation about close proximity to radium, by placing a small amount in a glass tube, and keeping it in his vest pocket. The amount of time it remained there is not stated. Although no burns were produced by this experiment, the article says that when placed against bare skin, serious, painful burns appeared after several days that are difficult to heal.

It concludes by pointing out the dangers of radium to the human eye, and that close proximity when viewing it would ultimately result in blindness. Nevertheless, the article proposes its use as a “practical” indoor artificial lighting source! Uh, no thanks, I’ll stick with my kerosene lamp.

The Way We Were

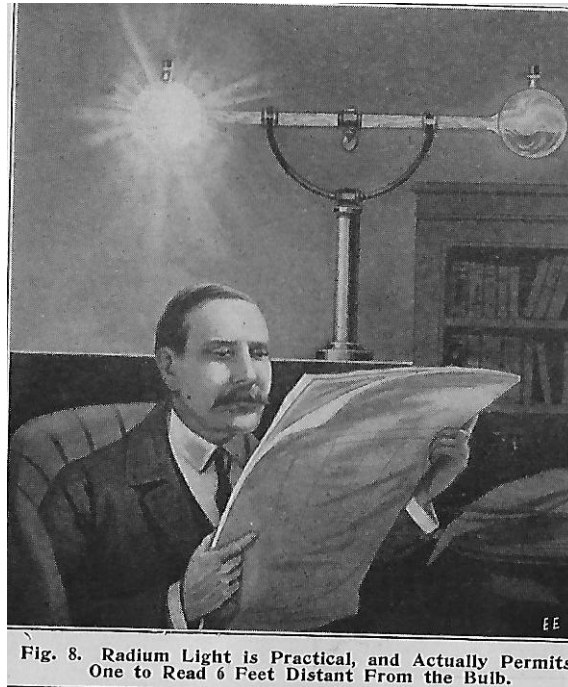


Fig. 8. Radium Light is Practical, and Actually Permits One to Read 6 Feet Distant From the Bulb.

World War I had started in Europe in 1914. The November, 1915 issue begins with a description of an "Electro-Magnetic Gun" and states that although several patents have been awarded for it, none of the warring European armies were known to be actually using such a weapon.

The principle is described as follows: a series of powerful electro-magnetic coil windings are placed around a non-magnetic gun barrel. A magnetic projectile is placed in the breach just far enough to reach an electric contact within the barrel. When this contact is reached, it closes an electric circuit through the first coil. This causes the projectile to move forward, passing over and engaging a switch, which energizes the second coil, and so on down the barrel near the muzzle, with no further current applied, and no further resistance, thus launching it out of the muzzle.

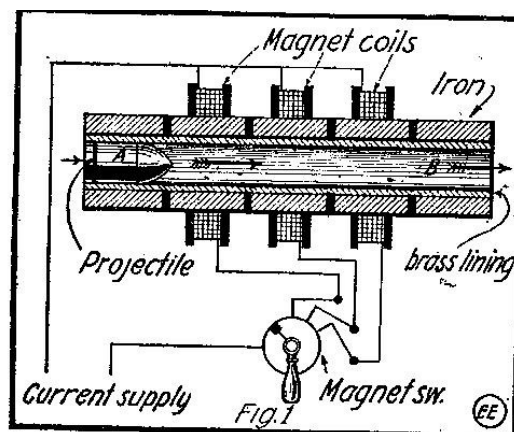
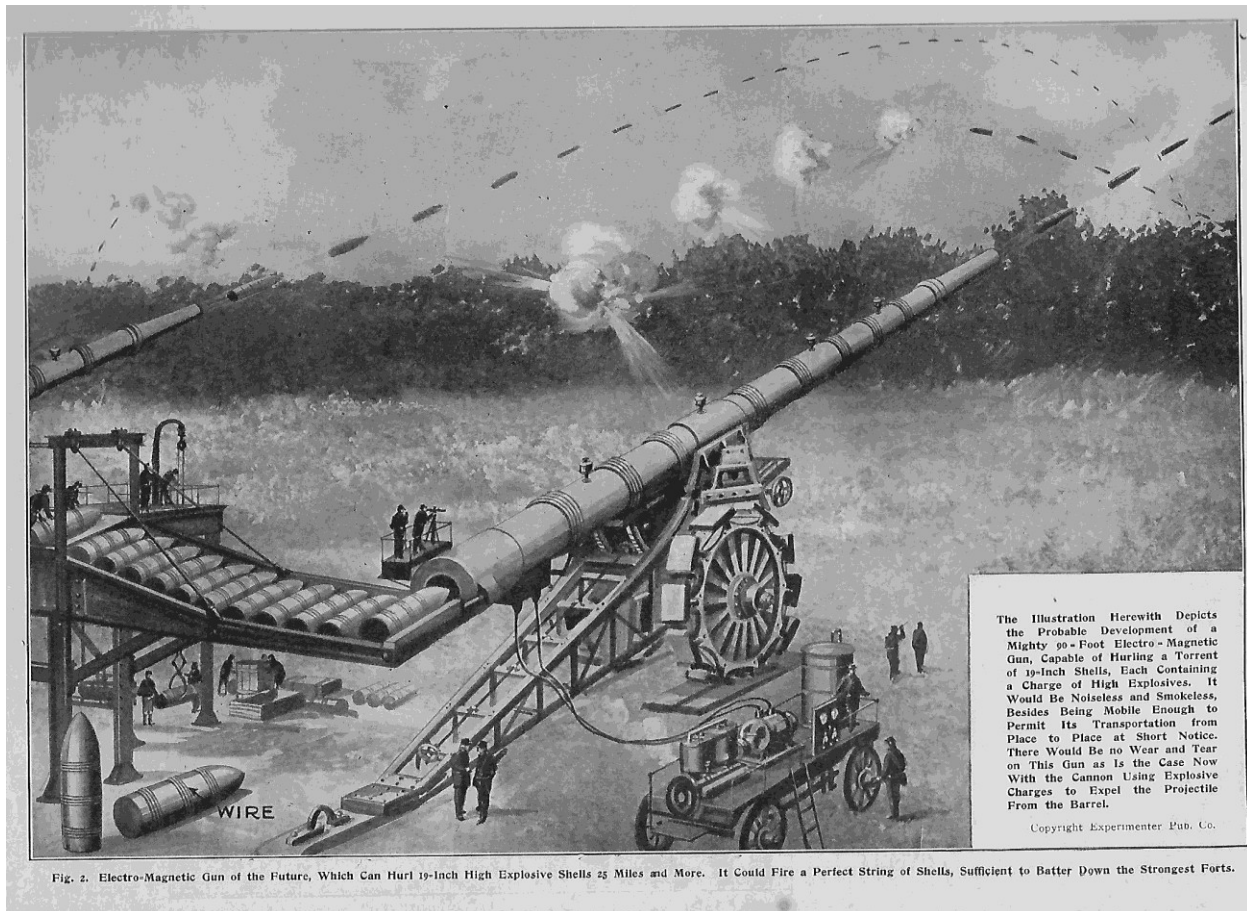


Fig. 1. Elementary Diagram Showing Action of an Electro-magnetic Gun.

The article then offers an artist's conception of a practical gun of this kind in combat.



Oh, the limitless imagination of man, when it comes to new ways of killing! Can you think of any possible practical objections to this monstrosity? I'd bet a smart fourth grader could, too.

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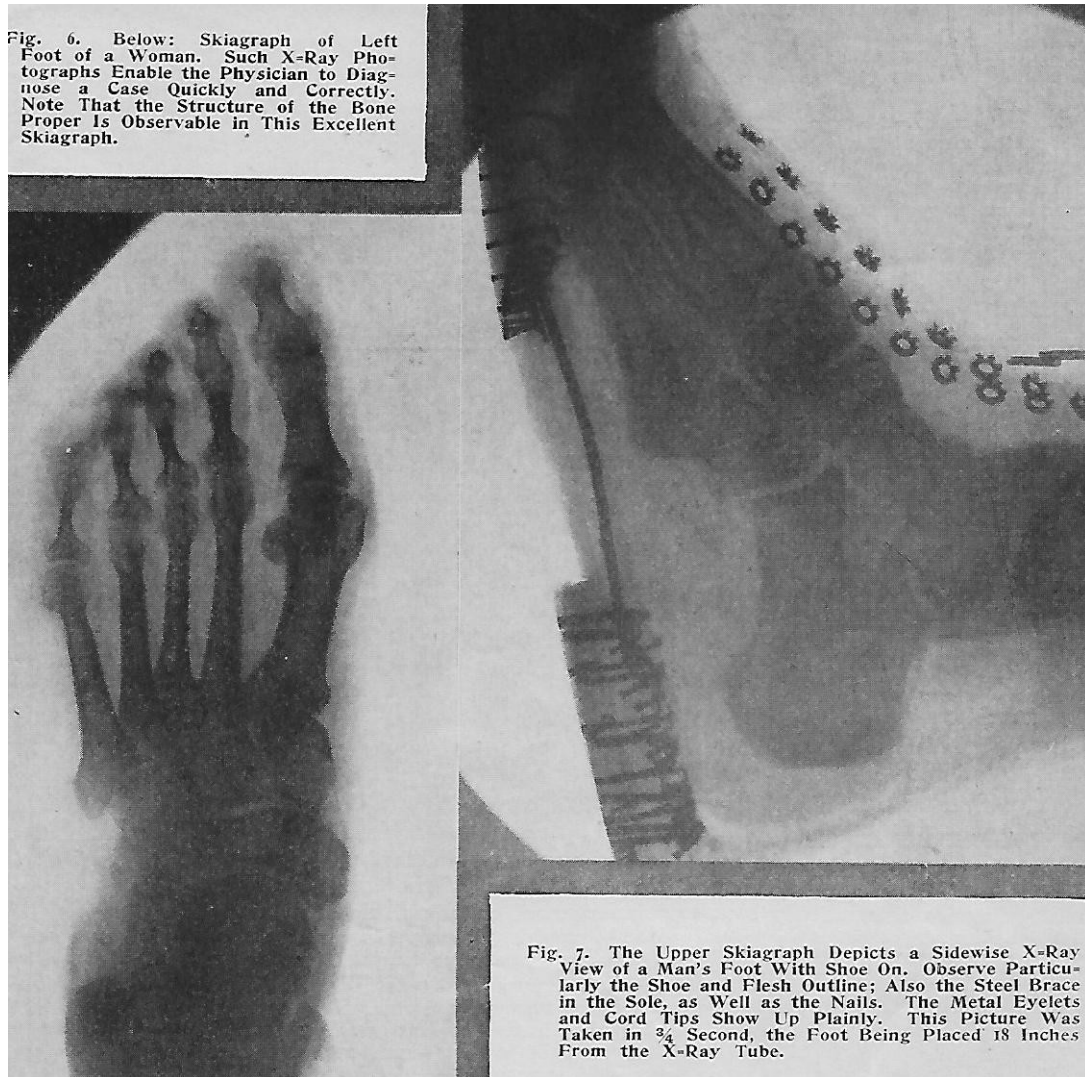
Those of us old enough to remember the 1950s recall those “x-ray” machines (actually fluoroscopes) in shoe stores. You’d stand on the platform of a machine, similar to an old fashioned weighing scale. Then, looking down, you’d see a green image, with the bones in your feet plainly visible through your shoes. The x-rays not only penetrated your shoes, socks and the skin of your feet, but also gave your gonads a nice dose of radiation, too. Incredibly, nobody thought that was a dumb idea back then.

Well, the idea isn't new. It seems to have originated with a chap named Clarence Karrer of Milwaukee, Wisconsin, who claimed to have invented this device in 1924 as a shoe-fitting aid while working for his father's x-ray equipment business. Another inventor, Jacob Lowe of Boston, was working on a similar device at about the same time. Lowe's efforts were focused on the diagnosis of foot problems suffered by veterans. Lowe succeeded in being awarded a patent for his invention in 1927. [2]

The Way We Were

But x-rays were already being used to evaluate foot problems much earlier. An example of this can be found in the November, 1915 issue of *The Electrical Experimenter*.

In the image below of a man's foot with shoe, the x-ray tube was placed 18 inches from the photographic plate, the exposure was 0.75 second, and the x-ray tube was carrying a current of 40 milliamps of high voltage D.C. This image was known as a Skiagraph, and was taken by radiographer Harry F. Earnest.



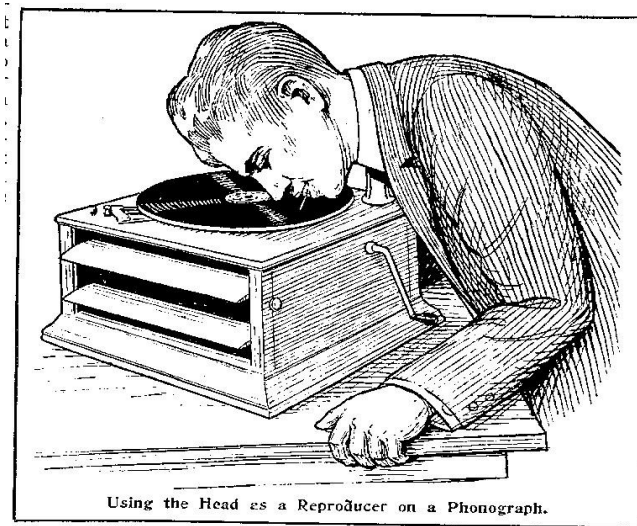
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Moving on to the January, 1916 edition of *The Electrical Experimenter*, we discover something “entirely different,” as Monty Python used to say, but alas, no less comical.

The Way We Were

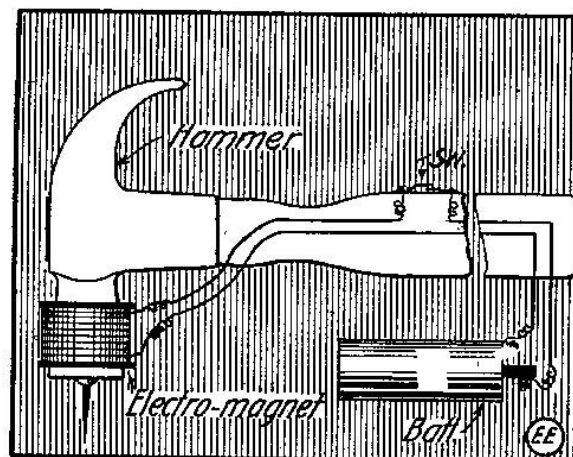
There's an article by Hugo Gernsback entitled, "Hearing Through Your Teeth." What, you say? Well, we've all been to the dentist, and subjected to a good tooth drilling now and then. While that drill is busy, the experience can sometimes be somewhat painful, but it also includes a lot of sonic results, too – often at high pitched, high volume levels, due to the resonant properties of teeth when excited by the vibration caused by drilling.

Applying that principle to the reproduction of sound from a phonograph record, we have this example as a possible means of listening to a record with only the teeth as a sound reproducer, by holding an ordinary darning needle between the teeth and applying the sharp point to the grooves of a record.



This phenomenon shouldn't be surprising, Gernsback says, since it is well known that holding a vibrating tuning fork placed on the back of the head, just behind the ear, will produce similar results. Of course, this procedure would not work if you plan on trying it with a compact disc!

In the same issue is a suggestion from reader Walter Braheney about a Magnetic Hammer, which would make it easy to pick up headed nails or tacks before hammering them in.



The Way We Were

Braheney describes this “ingenious” device as follows: If there is rust on the hammer-head, first clean the surface with emery paper. Then, wind five or six layers of No. 18 magnet wire around the head. Leave leads about six inches long. Install a small switch on the top of the handle. Tack the wires from the coil windings to the side of the handle, and connect to the switch. Then bring the end of the wires down to the end of the handle, and attach a power cord. Connect the power cord to “five or six” large, old fashioned dry cells in series. He says that a connector should be added, so that the dry cells can be disconnected when the hammer is not in use.

He doesn’t say what might happen when you start hammering, and the nail or tack flies off, and has to be re-applied. I also wonder about someone actually making this device, and having to lug a box of five or six old dry cells around to each new place where the hammering is to be done. I suspect that at the first rap of the hammer, the parts would fly off, too. But after all, this was 1916, and electricity could do “everything.” Nowadays, I expect some digital “genius” to design a “digital hammer,” that requires software (and many “upgrades”) in order to drive in a nail. Maybe Braheney’s idea wasn’t so silly after all.

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Do you suffer from muscle stiffness? Are you battle-weary? Nerves all shot? No problem. Technology, as always, has an answer. Maybe not a good answer, but an answer, nevertheless. An article in the March, 1916 edition of *The Electrical Experimenter* describes a process developed by another electrical “genius,” this time from Germany.

Troops returning from the trenches of World War I could relieve their stiff muscles, “nervousness,” and other ailments by simply placing their tired feet in a pan of water, and having someone throw a switch that would send electric shocks up their legs.

The article doesn’t tell us how the troops felt about this; but after all, it must be borne in mind that science and technology are never wrong. If the results don’t live up to expectations, it must be the *patient’s* fault for not properly responding to treatment. Here’s a picture of this brilliant discovery being applied to one of Germany’s military heroes:



The Way We Were

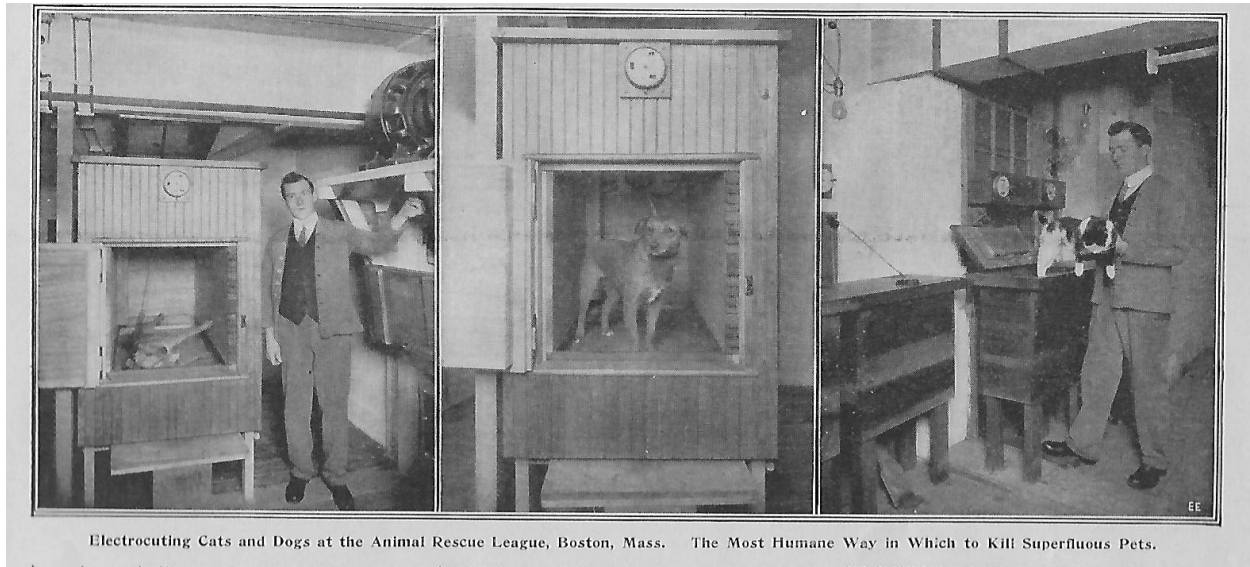
Animal lovers, I give you fair warning. Prepare for a “shocking” picture. In the same issue, there is an article entitled, “Electrocuting Superfluous Cats and Dogs.” Instead of wasting bullets, poison gas or hand grenades, a solution was found for solving the problem of too many animals.

Just confine them in a metal chamber, and throw a switch. This method is more efficient, and best of all, it uses the latest technology to produce the desired result.

Amazingly, this method was being used by the Animal Rescue League of Boston, Massachusetts, which they describe as “the most humane way in which to kill superfluous pets.”

This is less “shocking” when you realize that for much of the 20th Century, human beings were strapped down in a chair, and electrodes applied to their bodies, then high current applied to dispatch them to the infernal regions.

Humane? Why, sure. It’s better than being drawn and quartered, isn’t it?



Not every idea in the March, 1916 issue was so crazy, though.

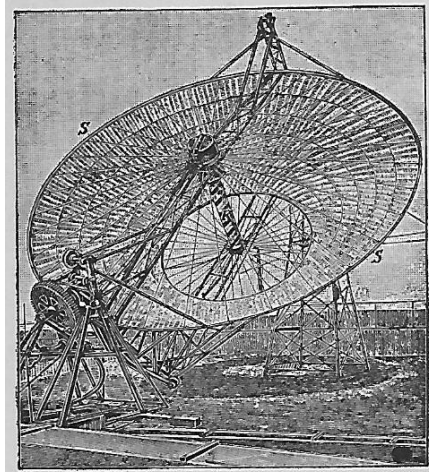
What is the image below?

A deep space probe?

A radio-telescope?

Or possibly an early attempt at amateur moonbounce?

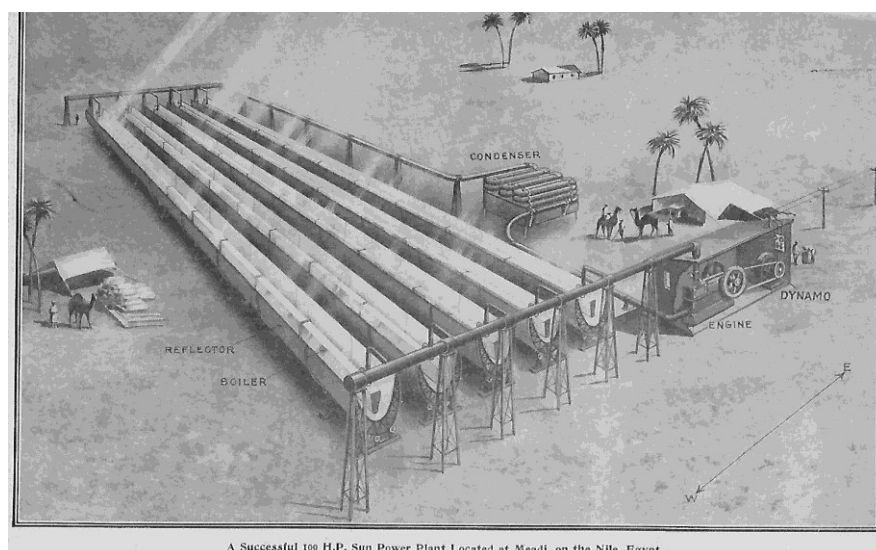
The Way We Were



No, it's a Sun Motor, adapted to include a Central Boiler. This device was used at an Ostrich farm in South Pasadena, California, and is described as follows:

This consisted of a concave mirror made of single glass planes set together, and measured about 12 yards in diameter. The sun's rays were collected and focused onto a water tank, let into the mirror in the shape of a cylinder 2-1/2 yards long, which acted as its axis. When the water tank remained empty on a sunny day its walls grew red hot in less than an hour. The 400 quarts of water it contained was brought to the boiling point in 15 minutes and the steam developed drove a motor of 10 horsepower, which in turn worked a pulley raising 5,600 quarts of water per hour; a decidedly noteworthy performance.

The accompanying article is entitled "The Utilization of the Sun's Energy" and is quite remarkable for its advanced thinking. It also describes a successful 100 HP solar generating plant built in Meadi, on the Nile in Egypt, pictured below.



The Way We Were

The article further describes some early work by experimenters using solar energy. In the 1820s, an unidentified European built a large number of lenses arranged in the form of a cone, similar to the parabolic dish shown above, but smaller. It was used to cook food, and melt tin and silver. In 1882, a Frenchman, M. Pifres built a solar engine on the roof of a Paris building to drive a printing press for a newspaper called "*Soleil Journal*."

From 1868 to 1886 a Capt. John Ericson experimented with solar engines, but failed to produce a practical product. In 1901, however, A.G. Eneas was awarded two patents for solar engines. Even Nikola Tesla experimented with solar power generation, but his approach was different. Tesla believed that solar and similar forms of energy give off "minute particles of matter" which are "strongly electrified," and which could charge an electrical conductor. See diagram at right.

Although Tesla could never develop a working device to prove his theory, he wasn't entirely wrong. After all, anyone who has listened to the HF bands during a solar storm can clearly hear the rushing sounds of solar explosions, which have excited our antennas, and which were amplified by the receiver, but at very low signal levels – levels much too low to be practical for power generation. [Editor's note: the concept, however, rather accurately describes **photons**.]

On page 610 of the same issue is an article entitled, "Killing the Smoke Nuisance Electrically," which describes early methods to eliminate smoke from chimneys by electrostatic collection, a process still used today. On page 614 there is also a detailed description of "The Tesla High Frequency Oscillator," which explains Tesla's experimental work at his Wardenclyffe tower in Shoreham, Long Island — which was his abortive scheme to generate electric power and transmit it by wireless.

In a future column, I plan on featuring the work described by Tesla that has been published in the pages of *The Electrical Experimenter*, so "stay tuned."

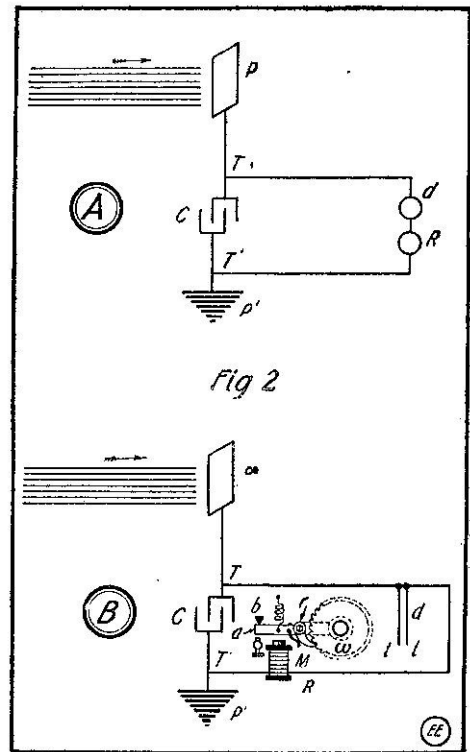
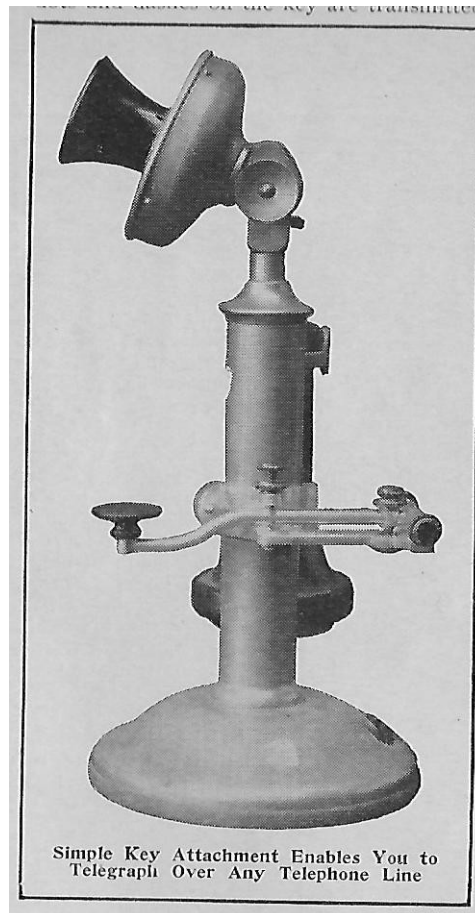


Fig. 2. Tesla's Scheme of Utilizing the Sun's Energy.

The Way We Were

On page 618 is described a patent awarded to Paul P. Banholzer of Philadelphia for a unique telephone-telegraph transmitter, which includes a telegraph key added to a “candlestick” type telephone of the day.

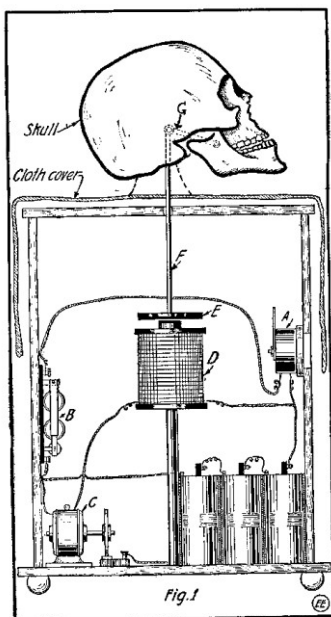


Gee, what a great idea for the dyed-in-the-wool CW op. Maybe I should add my keyer paddle to my digital phone, for when I feel like a little CW.

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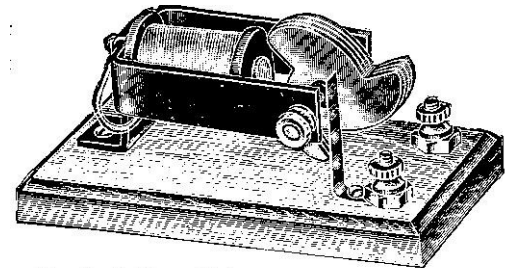
And now, for something entirely ridiculous. On page 638 of the March, 1916 issue is an article entitled, “An Electro-Magic Skull.” I won’t give you all the details of this gem of ingenuity, but briefly, it describes a contraption that uses a microphone to activate a relay with a rod up inside a human skull, moving the jaw up and down as you speak into the microphone.

Thus, with a darkened room save for a small candle, some heavy drapes, perhaps some ventriloquism, and a room full of gullible spiritualists, you might even be able to fool Sir Arthur Conan Doyle into believing that your late Aunt Bessie is speaking through the lifeless object on top of the séance table. Diagram at left.



The Way We Were

The April 1916 issue of *The Electrical Experimenter* continued its fine tradition of announcing strange and wonderful electrical marvels. Page 684 of that issue shows a most unusual device. I pondered the drawing for a long moment without reading the description.



Simple Battery Motor Utilizing but One Electromagnet.

It looked like an old type variable capacitor, with a coil behind it, wound around a soft iron core. I wondered what it could be. Possibly a tuned circuit of some kind, I supposed. But why is the inductor wound around an iron core? That wouldn't be appropriate as an LC circuit, because if voltage was passed through the coil, the core would saturate, and....So, scratching my head, I broke down and read the description. No, it isn't an RF device at all. It's a type of motor.

Described as a "monocoil motor," this unusual design uses only one coil, and requires only one dry cell (1-1/2 volts) to run at high speed. Here's more about it:

The current through the electro-magnet is made and broken as the armature rotates by means of a circuit-breaker mounted on the shaft, against which a spring brush bears. The principle is well-known in electro-dynamic phenomena, but very few motors have ever been built of this type. The motor consumes only 0.4 of an Ampere when operated on a single dry cell. The comparatively heavy armature acts as a flywheel, thus causing the machine to develop a surprising amount of power, considering its size.

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Page 686 describes "A Writing Machine That Responds to the Voice," developed by Brooklyn, NY electrical engineer John D. Flowers; but its theory of operation is too complex to describe here. Page 696 shows a new feature to add to your garden: loudspeakers placed inside garden walls and hidden by foliage, to amaze and mystify your house guests.

On the same page is a tragic story entitled, "Wireless Kills Woman." Herbert Abrams, 18, had been operating a small "amateur wireless" station powered by dry cells at his parents' home in Astoria, Queens (NY). When the household servant, Mary Roskinsky, grasped the key, her other hand made contact with a wire that was connected to a steam radiator, which was being used as a ground for the station. The station antenna had been run in the rear yard for about 100 feet, and during a recent storm, the wire had been weighted down by snow, which brought it in contact with the electric power line carrying 2,400 volts. It is believed that the unfortunate woman was cleaning around the key when the accident occurred.

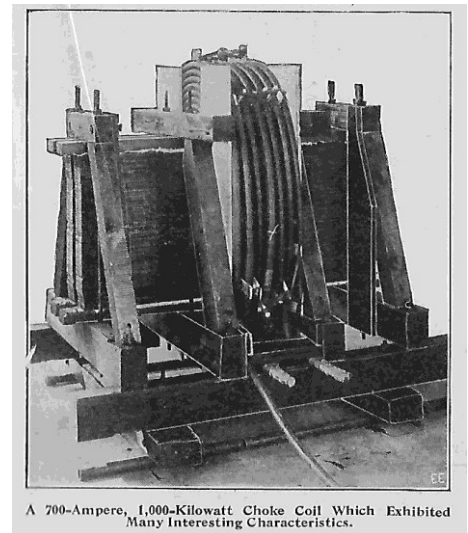
Follow-up: A search in U.S. Government call books from 1913 through 1916 fails to list Herbert Abrams as being a licensed amateur operator. This is not unusual. Many low power, unlicensed "dry cell" operators were tolerated on the amateur bands in those days. Only later would contacts with unlicensed stations become illegal.

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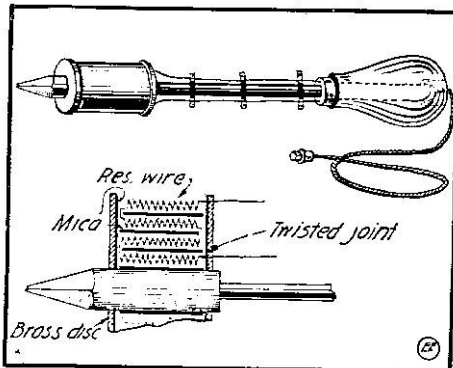
The Way We Were

Here's a handy device that every well-equipped ham shack should have, found on page 19 of the May, 1916 issue of *The Electrical Experimenter*.

It's a high power choke for electric power lines, rated at 1,000 kilowatts and 700 Amperes. Professor C.A. Adams of Harvard University calculated that the coil would require a resistance of 1.4 ohms in order to be used effectively on high tension lines. No such device currently existed, so it had to be custom built. Actually, this looks like the kind of choke that might be used by some of the European contest stations I've been hearing. I don't even want to think about what the rest of their "KW" amplifiers might look like!



Once upon a time, soldering irons were not powered by electricity. They had to be heated up with a blowtorch. Well, a bright fellow by the name of George Miller designed one of the first, or perhaps the very first, soldering iron that ran on electric power. His design appears on page 36 of *The Electrical Experimenter* for May, 1916.



A Useful Electrically Heated Soldering Iron.

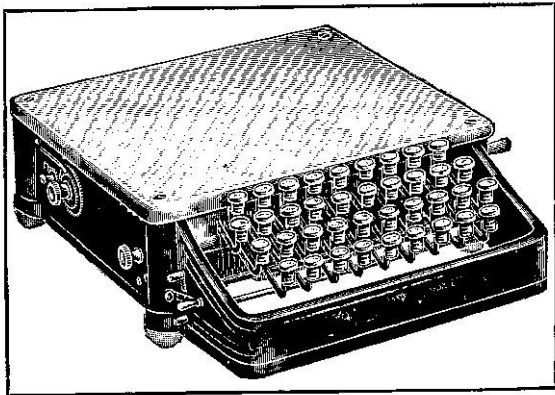
The heating element consists of a layer of resistance wire separated from the thick part of the tip by a layer of mica 0.002 inch thick. Then additional layers of resistance wire and mica are applied, each wire wound in the opposite direction. Asbestos-covered wire is then connected to the resistance wires and brought up through the hollow handle, out to an electrical cord. I wonder if George had the foresight to patent his electric soldering iron? If anyone knows of an earlier electric soldering iron, I'd like to know about it. Oh, and I wouldn't try making one of these nowadays. Asbestos is nasty stuff.

Oh, no — not radium again! On page 400 of the October 1916 issue of *The Electrical Experimenter* there is an article entitled: “Intensifying Radio Signals with Radium.” According to German scientist E. Bemier, experiments he conducted with this substance have done just that. Using a small, indoor helically-wound receiving antenna, he attempted to hear the time signal station “FL” (on the Eiffel Tower) in Paris without success. When a small quantity of radium bromide in a glass tube was brought near the antenna, signals were received easily.

Further experiments were measured on a microammeter, using a more conventional horizontal antenna. He found that maximum signals were measured when the radium bromide was brought near the center of the antenna wire, which he attributed to an increase in "primary current."

The Way We Were

During the late 1960's, several amateurs designed keyboards to send perfect code. By the 1970's, several manufacturers began producing these commercially. But the idea certainly isn't new. Page 404 of the October 1916 issue of *The Electrical Experimenter* has an article entitled, "Automatic Keyboard Transmitter for Wireless and Telegraphy." It states that unlike earlier efforts along these lines, a new "automatic keyboard" has been produced that works on all systems, both landline and radio. The idea was conceived to reduce operator fatigue from long periods of sending.



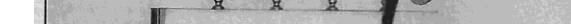
An Automatic Telegraph Code Transmitter That Prevents "Telegrapher's Cramp." Works on Any Line. Push the "Letter" Key; the Machine Sends Out the Proper Dots and Dashes.

The only difference between this keyboard and later efforts is that this type forms dots and dashes mechanically, the new type by solid state devices. From the solid state keyboards of the 1960s, it was a short step

to today's computer keyboards and code-generating software. I'll still keep my keyer and paddle, though.

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Our final look back takes us to a section called “Radio Department,” with the sub-heading “Some Interesting New Radio Apparatus,” on page 410 of the October, 1916 issue. Here are described a number of detectors, variable capacitors, a complete receiver, and a quenched spark gap. On the next page, though, is a detailed description of a “Radiophone” designed by Edward G. Gage of New York City.



The “Gage Radiophone” design is based on the Fessenden high frequency alternator circuit, but with improvements. The alternator of the Gage unit operates at 40,000 R.P.M., which is twice that of the Fessenden and Alexanderson designs. Here’s a picture of the Control Panel which includes the microphone, detector, and telegraph key.

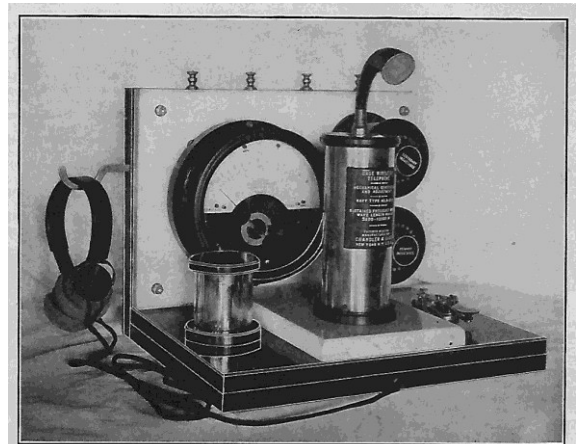
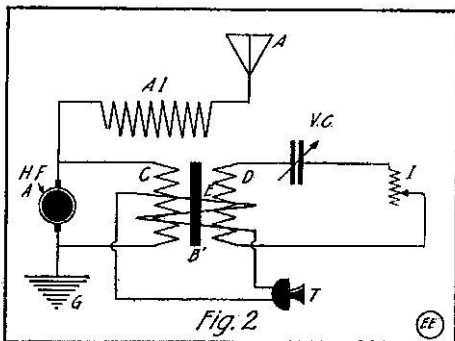


Fig. 1. Control Panel, Switch Hook, Microphone, Detector, Etc., Used in the Gage Radiophone System.



Circuits Used with the Gage Radio Frequency Alternator System of Radiophony.

This system was tested and found satisfactory at the Delaware, Lackawanna & Western railroad terminal at Hoboken, New Jersey, one of the earliest railroads to use wireless communication. The station at their Hoboken terminal used a 3 horse-power motor operated by 150 storage batteries to drive the alternator. The storage batteries were required, the article says, to maintain a constant speed regulation. A schematic of the Gage Radiophone is shown at left.

The Way We Were

High currents were developed in this system, and because of this, the microphone had to be water-cooled. The microphone mouthpiece was also specially designed to capture all the “vibrations” (frequencies) of the human voice. The telegraph key was used to make initial contact with the receiving station, and when contact was established, the microphone was employed.

The circuit above differs from other designs in that the alternator is connected directly in the antenna and ground circuit and is shunted across a receiving coil of a three-coil transformer. The second coil of this transformer is connected in series with a variable capacitor and an adjustable inductance. The third coil is linked to the “telephone transmitter” (microphone). This coil is wound over the other two coils. The principle is the modification of the antenna current by detuning.

The field tests were conducted at a second station located on Long Island Sound, with additional contributions by the National Electric Signaling Company, with receivers installed on their Fall River Line steamers.

By the way, the Delaware, Lackawanna & Western railroad merged with the Erie Railroad in 1960, and became the Erie-Lackawanna. [3] Later, Erie-Lackawanna became Conrail, and is now New Jersey Transit. Some D.L. & W. lines in New Jersey, especially those running through Paterson to Hoboken, became part of the New York, Susquehanna & Western Railroad, which still exists as a freight line only. [4]

I hope you’ve enjoyed this look back at some of the unusual and fascinating work being done electronically more than a century ago. I have often found that there’s gold in those old magazines just waiting to be mined. Until next month...

73,
Fred W2AAB

NOTES:

[1] Wein, Samuel, (Letter to the Editor dated June 9, 1956), “From a Pioneer – About the History of Sound Motion Pictures,” *Journal of the SMPTE*, Vol. 66, February, 1957, p. 52, referenced on *IEEE Explore*, at:

<https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7267216>

[2] “The Shoe-Fitting Fluoroscope: A Little-Known Application of the X-ray,” *Hematology-Oncology – News*, May 10, 2008, at: <https://www.healio.com/hematology-oncology/news/print/hemonc-today/%7B2df0dfa1-ce57-490a-8bea-6533f4a89f84%7D/the-shoe-fitting-fluoroscope-a-little-known-application-of-the-x-ray>

[3] “Delaware, Lackawanna and Western Railroad,” *Wikipedia*, at:

https://en.wikipedia.org/wiki/Delaware,_Lackawanna_and_Western_Railroad

[4] “New York, Susquehanna and Western Railway,” *Wikipedia*, at:

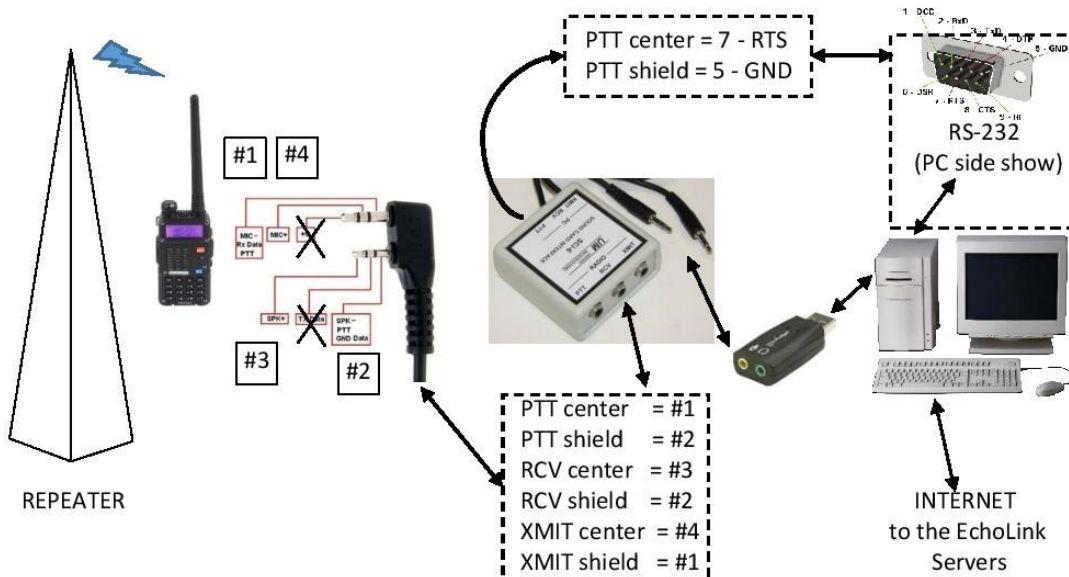
https://en.wikipedia.org/wiki/New_York,_Susquehanna_and_Western_Railway

[5] Page numbers cited seem very large, but it appears that they began with each May issue and increased for the rest of the year. Even so, each issue on average was 50+ pages - quite a publication back then.

Connecting a repeater remotely to EchoLink

By Robert Holstrom, KD2BKD, updated 3/25/2020

There is a lot written about EchoLink on the web but I just wanted to put out a single diagram connecting up a simple HT (should work with Kenwood, Wouxon, and Baofeng) between EchoLink and a repeater. This will allow those on EchoLink to talk out on the HT to the repeater and to hear the repeater via the reception from the HT.

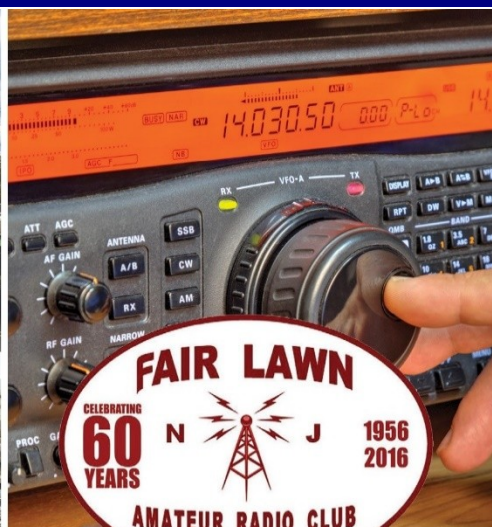


This is an example wiring diagram to connect HT to a PC. I used an external USB sound card dongle but the internal sound card should work. Sound card was purchased at Microcenter for about \$10.00. The interface box used is a Unified Microsystems SCI-6 Sound Card Interface for \$25.00. This comes as a kit and should take about an hour or two to solder and assemble. You will also need to make the wiring between radio and interface and interface to PPT (RS-232) cable from the PC anyway. I used the connectors from a HT speaker mic. RS-232 connectors can be found at Microcenter.

Software wise I use the standard EchoLink software on a PC in the Sysop mode. You can find more information on the particular setting at:

<http://www.echolink.org/Help/sysop.htm>

Once EchoLink is setup to a repeater via RF connection, to connect to another that is already on EchoLink it is as easy as just connecting to that connection just like you typically would.



FLARC Proof Of Performance

Why is FLARC New Jersey's most exciting radio club?

Here are just a few reasons so far in 2019:

- Field Day at Memorial Park
- Winter Field Day
- World Amateur Radio Day special event
- Earth Day At Great Falls special event station
- Garretson House special event station
- Memorial Day parade public event
- Portable Day(s) with BARA
- Fair Lawn Street Fair(s) public event
- Independence Day Fireworks public event
- Vintage Night
- "Kids Day" public event with TCRA
- North American QSO Party
- NJ QSO Party
- Foxhunts
- Summer VANFEST at W2DLT
- Field Trip to iHeart Radio

Plus:

- Thursday Night open house and CW class
- Soldering classes
- RACES/ARES public service
- Monthly w sessions
- Projects such as end fed and 2m antennas
- Annual member interest survey
- Weekly Monday "Near and Far" Net
- FLARC auction
- FLARC Holiday Party free to members

Plus:

- Over 45 consecutive months of speaker programs including K1JT in 2019!
- New equipment in the shack!
- New antennas on the roof!
- Coming Soon: Tuesday evening and Saturday morning club openings
- And...a clubhouse!!

That's why FLARC is the best club around!!
Join us with more activities, speakers and projects to come!

Station Un-Design Tips

Here is a rainy-day task: Think through the need, cost, and benefit as well as the unwanted, unintended and unanticipated consequences of every nut, bolt, wire, fuse, power strip, connector, insulator, fan, plug, socket, jumper cable, filter, balun, three wire to two wire AC adapter, “lightning protector” (typically useless and/or installed wrong), ground rod, LCD display and piece of gear in your shack. That list is incomplete but you get the idea. Below are three examples of items that might be in your shack that you might be better off without. When working as an engineering manager an important part of my job was helping design engineers avoid designing-in unnecessary parts. As technology progressed unnecessary parts included unnecessary microprocessors, memory, software and firmware.

Seriously, take an hour and think through your station piece by piece.

Example 1 – An easy one

That AC power strip that’s plugged into another AC power strip, put there in the days you had nine things to plug in... and now you only have three... maybe that second one should come out and go into a closet?

Example 2 – Stand-alone in-line wattmeters

If your gear is modern, you have a wattmeter/SWR bridge built into your radio. Medium to high-end amplifiers have wattmeter/SWR bridges built in as well. Virtually all antenna tuners have a built in wattmeter/SWR bridge. A stand-alone in-line wattmeter is of some use on the output of an inexpensive amp like an AL-811 (and its many variants) or an SB-220 because those don’t have one. Even those amps however have relative power output meters and you can get by with that and nothing else. If your amp has a wattmeter, or you have no amp and your radio has one, what’s the justification for another?

Meanwhile, a wattmeter is a good piece of test equipment to have around, as is a dummy load. But in line all the time? I keep a Bird 43 wattmeter on my test equipment shelf.

At N4GG both radios have built-in wattmeters, both amps have built-in wattmeters and each amp is followed by a high-power antenna tuner that has yet another built-in wattmeter. A visitor once asked me why I didn’t have a wattmeter. I didn’t have the heart to tell him I didn’t need a fourth one for each radio+amp+tuner.

In-line wattmeters – the pros:

- They can be fun. The needles swing or the displays flash. Wattmeter/SWR bridges of the crossed-needle type look particularly impressive. It’s a hobby. Have one or more if that makes you happy.
- They can be useful in spotting changes. Many of the digital ones provide three or four digits of precision (not accuracy). If the second digit of your SWR is different than it was yesterday, then something might be changing outside. The wattmeter/SWR bridge in your radio can be used the same way, but stand-alone meters are sometimes easier to read.

Around the Shack

In-line wattmeters – the cons:

- They cost money
- They take up valuable desk space
- They distract you from what's important, if what's important to you is grinding your way through a DX pileup or a contest.
- Here is the big item: They add loss and reduce station reliability.

Let's do what I suggested at the start of the column and think our way through it piece by piece. An in-line wattmeter adds a jumper cable and one additional male RF connector (net). It also adds the two SO-239s on the wattmeter box and the connections and components inside the box. The extra jumper cable and connectors add some loss, maybe 0.2 dB? That's not a problem on receive until, perhaps, you get to VHF frequencies. When transmitting however, 0.2 dB of loss converts 68 watts of RF into heat if you are running 1500 watts output. No one will notice that when listening to your signal, but that extra jumper cable and those connectors will get warm. Then there is the use, possibly, of "mystery" connectors (see the February, 2019 column) and worse still the use of right angle adapters at the connections to the wattmeter. I see right angle adapters a lot on the rear of wattmeters. Including right angle adapters, our in-line wattmeter has added a PL-259, two right angle adapters, two SO-239s, a cable, the circuitry inside the wattmeter and the power cable for the wattmeter and, if needed, a power supply (fortunately, most can run off 13.5 VDC "house power"). All this is in exchange for, hopefully, some benefit(s). Only you can do the trade-off for your station.

There *are* stations that are piled high. Rig upon rig, amps, antenna tuners, LCD screens, handhelds in chargers, wattmeters, test equipment, power supplies, etc. If this is your thing – more power to you. I'm all for it. Station building can be a fun part of the hobby. N4GG is designed as a DX and contest station where efficiency and reliability come first. You may have something completely different in mind.

A true story:

I made a trip to HP1XX some years ago to operate in the ARRL CW DX contest. The station had an intermittent connection somewhere in the RF path and I traced that down to the area of an in-line wattmeter. It was following an ACOM 2000A amp which had an accurate wattmeter of its own. The additional wattmeter didn't need to be there. It had right-angle connectors on the back and the one I grabbed was RED HOT. Ouch. The wattmeter and jumper cable were moved to a closet and the right angle adapters were redirected to file 13.

Example 3 - Fused power strips

Figure 1 shows a RIGrunner power strip – which can be public enemy #1 when operating away from home. I'm not picking on RIGrunner – MFJ and many others make the same item. The basic problem of course is what to do after a fuse blows and takes you off the air. Got spares? Every EOC I've been in has these scattered about – and there are usually no spare fuses. EOCs and club stations in particular like to use Anderson Powerpole connectors because various people and radios are coming and going and it's valuable to standardize. The Powerpoles are fine, the fuses are not.

Around the Shack

Take a close look at Figure 1. There are three 25 amp branch circuits that will each handle a 100 watt radio drawing around 22 amps (at 12vDC) when transmitting. The main fuse however is 40 amps. When two rigs are transmitting they present a load of 44 amps peak and will blow the main fuse – shutting *everything* down. The total capacity of the individual fused circuits is 102 amps. The main fuse is 40 amps. Even if we load each branch circuit at half its rating (51 amps total) the main fuse will blow.

Fuses protect the load (equipment, wiring) and the power supply. Modern equipment seldom fails and some examples have built-in circuit breakers or fuses of their own. Nearly all modern power supplies are over-current, over-voltage and short-circuit protected - they don't need a fuse in series with the load. Your station may include a power supply that can handle the load, a power strip that can handle the load, and a fuse that can't. That's okay at home I guess, but away from home what, exactly, are we accomplishing? "I use fuses because, you know, everything should always be fused" is not an answer, it's a slogan.

Another true story:

This occurred while setting up a two transmitter contest station at VP2M. Regretfully, a fused power strip wound up in the mix and was powered up when a wire from it to a piece of gear got plugged in on the gear end. The plug on that end was a 1/8th inch phone plug that for a few milliseconds caused a short as the plug slid into the jack. Presto; blown fuse, off the air! We needlessly "saved" the short circuit protected power supply from a momentary short circuit and went QRT. In this case, the fuse in series with a self-protected power supply served no useful purpose – it just reduced station reliability. We didn't travel all the way to VP2M to test fuses. The work around: all the Anderson Powerpole connectors were cut off and those along with the power strip were set aside. The power supply leads and all the load wires were stripped and twisted together with two large wire nuts. We had a contest to win and no time for niceties.

Redundancy often just adds redundant failure modes.

So – ready to retire parts of your shack? Kick back, grab a cup of Joe and think it through. Maybe even draw a few diagrams for you station technical notebook!

73,
Hal N4GG/4

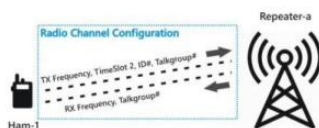


Figure 1: Rigrunner Powerstrip

Basics of DMR Programming

By Robert Holstrom – KD2BKD – updated March 10, 2020

DMR repeaters require more information than an analog repeater. With an analog repeater typically all that is required is the receive frequency, the transmit frequency, and the PL tone. DMR has both transmit and receive frequency but instead of PL tone DMR has Color Code. The Color Code is a number. One would think it would be a color like red or green etc. DMR also has Talk Groups and Time Slots. There are 2 time slots which allow 2 separate conversations to go on at the same time on the same frequency, but we will not get into how that works at this time. There are many Talk Groups that are used around the world that are allocated by the different DMR server organizations.



So now let us get the Talk Group list of a local networked repeater, KM4WUD, in Paramus, NJ. Searching for KM4WUD on the internet show it connected to the MOTODMR network with the following information.

<https://motodmr.net/repeaters/paramus-nj/>

Frequency = 444.150 +5 / Receive Frequency = 444.150MHz
Transmit Frequency = 449.150MHz

Color Code = 0

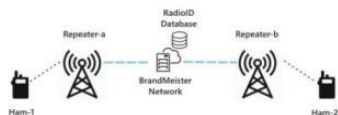
Talk Group Name	Network Feed	Talk Group ID	Time Slot	Access
NY-Metro	Bronx-TRBO	444	1	Full Time
North America	DMR-MARC	3	1	User Activated
World Wide English	DMR-MARC	13	1	User Activated
UA English 1	DMR-MARC	113	1	User Activated
UA English 2	DMR-MARC	123	1	User Activated
TAC-310	DMRX	310	1	User Activated
TAC-311	DMRX	311	1	User Activated
TAC-312	DMRX	312	1	User Activated
TAC-1	DMRX	8951	1	User Activated
Bridge-3100	DMRX	3100	1	User Activated
BM North America	BrandMeister	91	1	User Activated
BM Worldwide	BrandMeister	93	1	User Activated
Parrot	DMRX	9998	1	User Activated
Local Repeater	Local Repeater	9	2	Full Time
NJ Statewide	BrandMeister	3134	2	User Activated
North NJ	BrandMeister	31342	2	User Activated



Network Feed is the DMR network used for the Talk Group. This is not important in programming a DMR radio.

A “User Activated” Talk Group under “Access” would have to be keyed up on your radio to connect to. This typically hold the Talk Group open for 5 minutes.

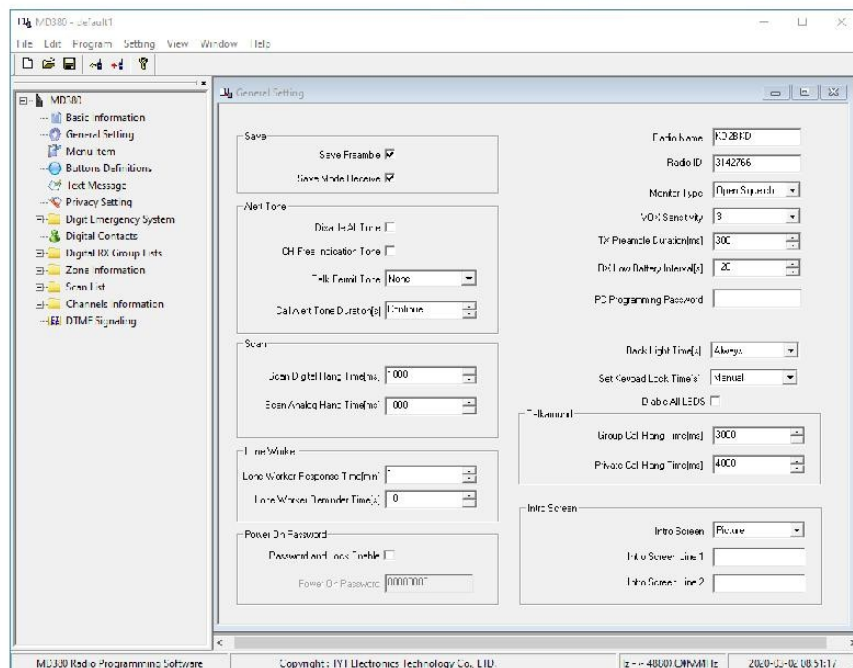
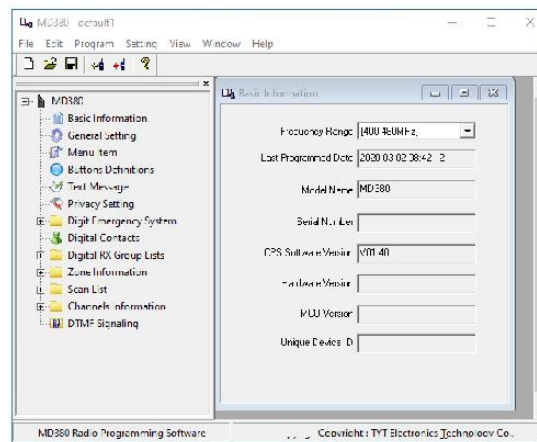
Now with this information you can build your code plug for this repeater. You may not want every Talk Group programmed. I will do the North NJ Talk Group and the others will be the same procedure.



Before all this you need to get your own DMR ID from www.dmr-marc.net (Register ID). Typically, only one DMR ID is required per person as it can be used in all DMR radios and hotspots if one was to use only one at a time.

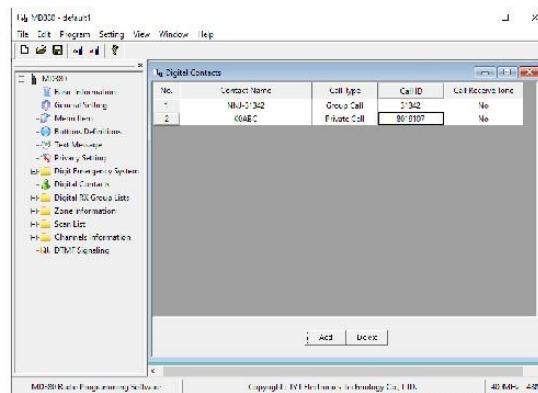
Note that the instructions below were created using the TYT MD-380 software for the example. Other radio software maybe different.

1. Make sure the proper radio data is entered in under “Basic Information”.
2. Next in the “General Settings” You need to enter your Call Sign and DMR ID. I am KD2BKD and my DMR register ID is 3142766.



- Go to "Digital Contacts" and select "Add" then enter the "Contact Name" (Talk Group name) you would like displayed on your radio, call type ("Group Call" for Talk Group) "Call ID" = Talk Group ID from list above, set "Call Receive Tone" to "No". For North NJ I would make the name "NNJ-31342". The Call type = "Group Call". Call ID = "31342". Tone = "No".

Note that you only need to do the above 1 time for each talk group you will be using even if the talk group will be used on many different repeaters.



- This is also where you put in the name and or call sign of people you would like to see.



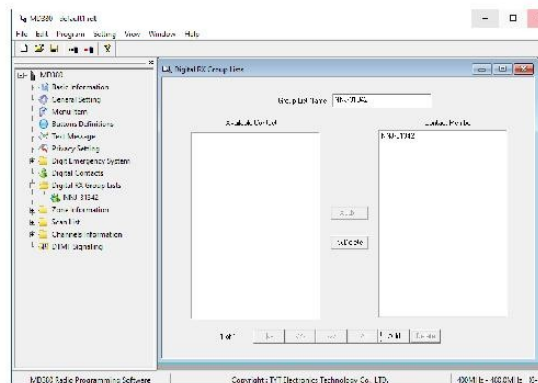
If the person's DMR ID is not specified, just the DMR ID will be displayed to the screen when that person keys up. So, for instance if you want to put John Smith into your radio "Digital Contacts" add another contact with contact name "KOABC". Under call type select Private Call. KOABC's DMR ID is "8019107". Tone = "No". Now when John Smith talks or just key up "KOABC" will appear on the display in place of the DMR ID.

Note that some newer radio firmware supports the downloading of the complete DMR database therefore not requiring individual entering of people's DMR ID and call sign.

- Now you need to link the Group Call Digital Contact to a Digital RX Group. Select "Digital RX Group List" and then select "Add". I use the same exact name as the Digital Contact for the associated Digital RX Group. So, for the Group List name I would put "NNJ-31342" and then select "NNJ-31342" as the "Contact Name" and select "Add".

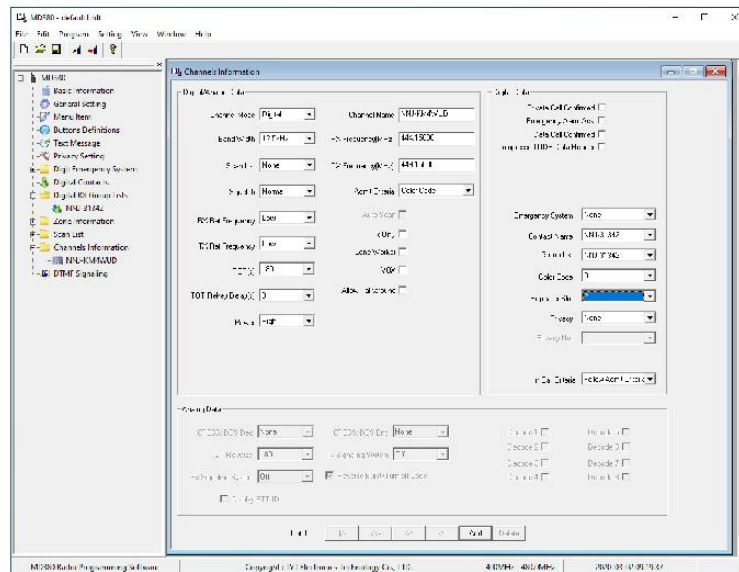
This seem like you should not have to do this but DMR was originally design for commercial radio.

Note that you only need to do the above 1 time for each talk group you will be using even if the talk group will be used on many different repeaters.



6. This is to make a channel. Select “Channel Information” and you should now be on a screen with all the information needed to set up the channel. Channel Mode = “Digital”. I use the naming of the Channel to state something about the Talk Group and then about the repeater. I would name this channel “NNJ-KM4WUD”, Band Width = 12.5KHz, Scan List = None, Squelch = Normal, RX Ref Frequency = Low, TX Ref Frequency = Low, TOT(s) [talk time = 3 minutes] = 180, Power = High,

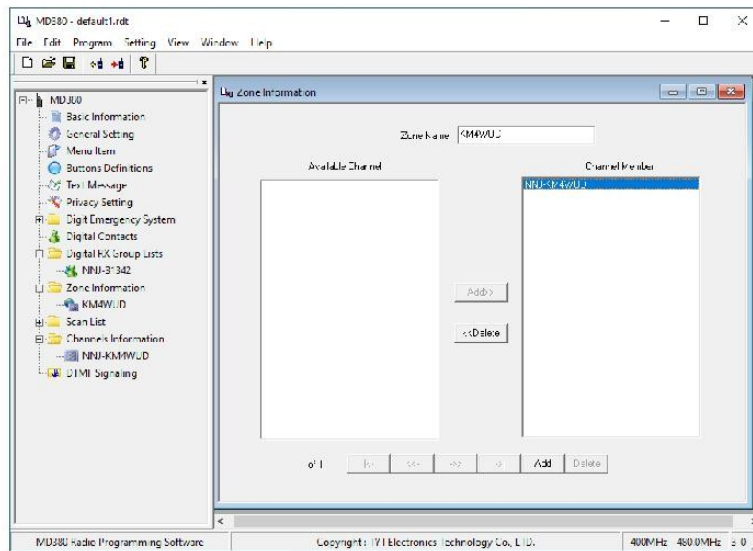
RX Frequency = 444.15000,
TX Frequency = 449.15000,
Admit Criteria = Color Code,
Emergency System = None,
Contact Name = NNJ-31342,
Group List = NNJ-31342,
Color Code = 0,
Repeater Slot = 2,
Privacy = None,
In Call Criteria = Follow Admit Criteria.



Once completed entering the information select "Add" on bottom.

Many DMR radios have lists of channels divided by Zones. On your DMR radio you may have many different talk groups on many different repeaters adding up to several hundred channels / Talk Groups. Zones allow you to separate them by repeaters / locations / Talk Groups. I for instance have a zone for each repeater with the different Talk Groups. One of the buttons on the radio toggle through the zones. Many radios only have 16 channels allowed per zone. I also have a favorite zone were say 3 different repeaters in the area with Talk Group NJ are all next to each other. This is so if I am on the NJ Talk Group and go out of the area or get knocked off, I can go to the next channel which is the same Talk Group from a different repeater.

7. Go to “Zone Information” and you should see a list of the different channels available on the left and those already in that zone on the right. The name of that zone will be on the top. For this example, I would make the Zone Name = “KM4WUD”. You could also call it “Paramus DMR” or anything of your liking. All the channels you would like in that zone select on the left and then click “Add>>” in the middle. Once done select “Add” at the bottom to save the Zone.



The number of zones allowed may be up to 64 or more. Some DMR radios allow one giant zone.

8. Now it is time to upload your new code plug to the radio. Plug in the USB cable to the radio provided and select the icon  on the top menu bar.

A FLARC EXCLUSIVE: Professor Pupik's Amazing Discovery

By: Ichbinein Narr, PhD, D. Sc.

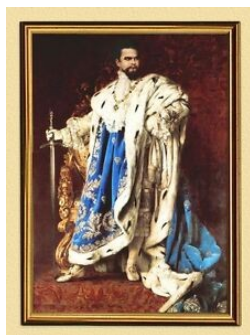
NOTE: The following text is the abstract of a paper originally published in the Russian scientific journal *Физическая Химия {Fizicheskaya Khimiya}*, Vol. CII, pp. 793-845, April, 2018, translation by Prof. Rotondo Gigante, Sc.D, with corrections by Ichbinein Narr, PhD, D.Sc.

Of all the amazing achievements recorded in the annals of science, one of the most singular was the work of an obscure Viennese, Professor Ulrich Manfred Pupik. Professor Pupik had been working on advanced studies at the renowned Institut Fur Elektrochemischestudien in the tiny Bavarian hamlet of Schweinfahrt, when a graduate student by the name of Ignatz Helzapoppen accidentally discovered that a certain rare earth, when titrated in a solution of rubbing alcohol and reduced in a compound of pthalate of sulfur produced a paste with remarkable electroluminescent properties.

This accident inspired Professor Pupik to perform a series of experiments to determine to what practical uses this paste might be applied. Pupik had misplaced Helzapoppen's notes, and his young colleague had graduated and relocated to parts unknown, so he attempted to reconstruct the original formula, with mixed results. His first efforts produced little more than smoky fires with fumes not unlike that of rotten eggs, but far more intense.

A second attempt was made by adding fulminate of mercury, but these efforts resulted in a fire that destroyed Pupik's laboratory and part of the Institut's sprinkler system. Disciplined by Department Head Karl-Heintz Kleinkopf, but undaunted, Pupik began again, but without fulminate of mercury. Subsequent experiments were performed in an outbuilding known by local peasants as "Der Geisthaus," an abandoned 19th Century structure, once belonging to King Ludwig II of Bavaria, and used for the King's experiments in alchemy, spiritualism, and animal magnetism.

Strange noises were often heard issuing from Der Geisthaus, especially at night. Green and purple smoke poured from its chimney, accompanied by nauseating odors that filled the air as Pupik performed his experiments. The local peasantry refused to go anywhere near the place, believing it to be inhabited by evil spirits.



(Image: ebay.de)

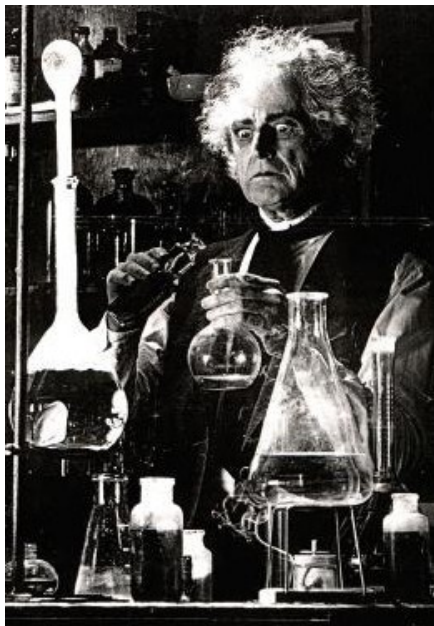
King Ludwig II of Bavaria in his official regalia as 34th Degree Prince of Ethiopia,
Royal Order of Speculative Alchemists, Spiritualists and Animal Magnetists

After many trials, expected results were not forthcoming, and Pupik was nearly in despair. He needed additional funding to complete his studies, so, accompanied by his colleague Dr. Heinrich Nichtsgespracher, an application was made to the Federal Government for a research grant. Pupik made the request first verbally, while Nichtsgespracher remained mute. They were instructed to file a formal request in writing, which they did, shortly thereafter.

Stated in their application was the belief that their efforts might pave the way for an entirely new technology that could find widespread use in many fields. What fields, they did not know, because of the unique properties of the material to be developed. The government, however, replied that they were uninterested in any research unless it could be applied to military purposes.

Professor Pupik's Amazing Discovery

"Imagine that," Pupik angrily told his colleague. "All they want is something that will blow up!" Not one to give up easily, the Professor then approached the Board of Overseers at the Institut, and was ultimately successful in procuring a grant of 100,000 Marks. This might not be enough, he reported in response, but he gratefully accepted even this amount to assist in his experiments.



The only known photograph of Prof. Pupik at work in his laboratory, taken just prior to the fire that destroyed it, and the Institut's sprinkler system

After three arduous years of effort, and more than 3 million Marks in additional funding, the now exhausted Pupik finally succeeded in developing a product, and a machine for applying it. A patent was awarded, but to the Institut, and the product and its application machine sold through a contractual agreement with the Province of Ungeschmachten's Department of Transportation.

The paste, when applied by Pupik's machine, was used to paint luminescent lines on the public roads. Unfortunately, the paste was only sensitive to sunlight, and was therefore useless at night. Furthermore, the material washed away with the first rainfall, and had to be re-applied — repeatedly, as soon as the roads dried out.

On the bright side, the required constant re-application of the luminescent paste gave the Institut's Board of Overseers hope that this minor difficulty would ultimately provide sufficient income to help recoup their loss of 3.1 Million Marks originally provided to finance Pupik's research efforts, and possibly another 50,000 Marks to repair Pupik's former laboratory and sprinkler system.

But when the Ungeschmachten Department of Transportation suddenly cancelled its contract with the Institut, Professor Pupik's tenure was, unfortunately, revoked. He was ordered to remove himself, his apparatus and his fulminate of mercury from Institut grounds. He is now believed to be living somewhere in Uruguay. The whereabouts of his colleague, Dr. Nichtsgespracher, are unknown, for he has remained silent to this day. Former Graduate Student Helzapoppen has been seen in Johannesburg, South Africa, and is reported to be working as a bartender in that city.

Moral: Science doesn't always march on. Sometimes, it just trips and falls flat on its face.

The Vanished Landmark – Follow-up

By: Fred Belghaus W2AAB

In last month's *Resonator*, we featured the picture of a local, once well-known landmark, no longer existing, that played a significant role in the history of electronic communications.

Several FLARC members quickly identified it as the IT&T microwave tower, once located at 500 Washington Avenue, Nutley. Thanks to all those responding with the correct answer:

Karl, W2KBF was the first. Karl knew the building because some years ago, he was looking for a replacement tube for his rig, and Jerry, NO2T said he could provide one. Karl met Jerry at the IT&T site, where Jerry was working, and picked up the tube. Karl adds that Jerry once had a 10 meter beam on top of the tower, which he used to make contacts during his lunch hour.

Alan, WB2HJZ was second to weigh in. Alan once worked at the site, his office located at ground level and slightly to the left of the tower in the picture. Alan also confirmed that the story about a suicide there is, sadly, true.

David, NK2Q identified it. His father once worked for the Avionics and Defense Communications Divisions, and actually performed tests of radio equipment in the tower. He adds that company picnics were held in its shadow. As a kid, David used to play around it, and one day his father told the family about the suicide there, which occurred on a weekend. David's grandfather also once worked there, and was helpful in David's dad landing a job there, too. David closes his comments by writing, "Boy, I really miss those picnics. Thanks for the memories."

Finally, **John, W2JLH** (FLARC VP) not only identified the tower, but he sent me via email details about a lot of additional former industrial sites in the area, all of which were notable for their deposits of toxic or radioactive waste material used in their manufacturing processes. Thanks for the additional info, John. Someday I suppose the ARRL will offer another award — WATWS... Worked All Toxic Waste Sites. That one should be easy to get, here in New Jersey.

I don't know whether IT&T had any active amateur radio clubs at their Clifton or Nutley plant locations, but at one time, the company issued special QSL cards for their ham employees. I have several from stations I've worked. Here's one from a well-known local ham:

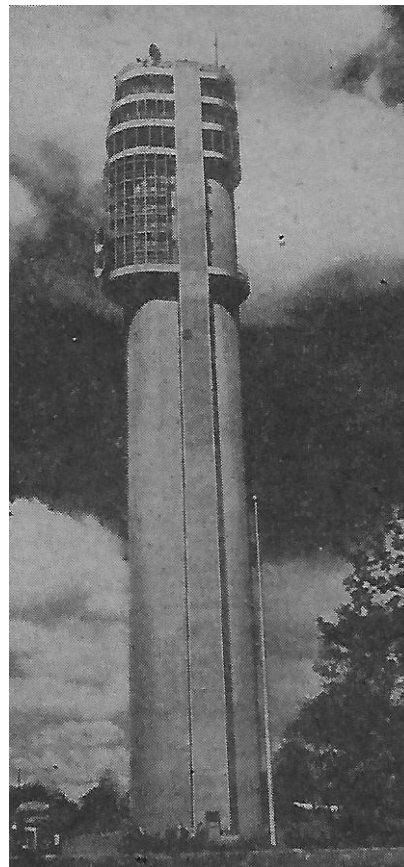


Image: *Radio Craft*, July, 1948

The Vanished Landmark – Follow-up



The card dates from 1972. I worked Gene on 6 meter SSB, and later on 70 cm CW. Those were great days!

Thanks to Alan, WB2HJZ, for providing some pictures of the tower's demise.

The following page shows its progressive destruction.

If you prefer, you can see the real-time demolition here...

<https://youtu.be/fZbFNPL6td8>

I really don't know why people are cheering and applauding this destruction at the end of the video!

The Vanished Landmark – Follow-up



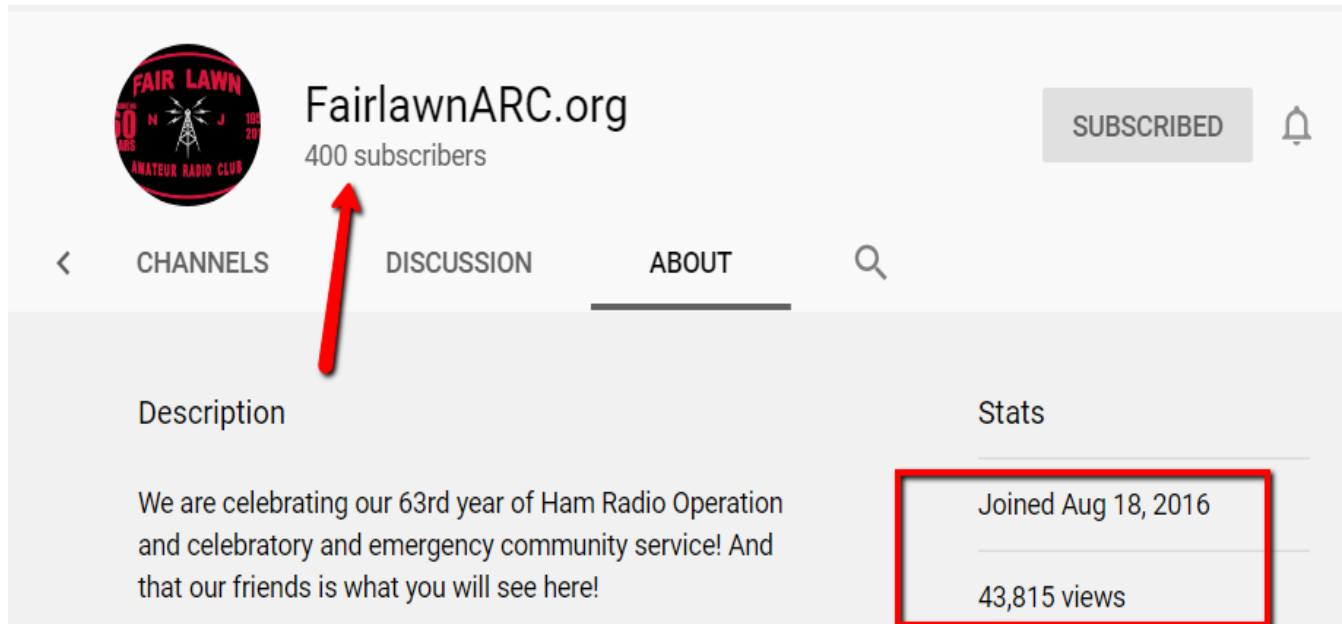
73,

Fred W2AAB

Congratulations To Thom W2NZ For A YouTube Milestone

Here is the Facebook announcement of our milestone of 400 (now 401) subscribers and our many videos of club speakers and internal programs. Thanks, Thom for all the hard work and great effort!!

Find us at:



COVID-19 Project Of The Month

Bob KD2BKD sends along a pix of a project he's working on to get ready for post coronavirus activity. What projects are you up to?? Send them along to Ed WX2R at wx2r@arrl.net and we'll feature them. Thanks Bob!!



Theoretics Demystified

Incandescent lamps are pretty interesting things.

I have seen them used as a protection device on digital circuit inputs and outputs to protect the components on the board in case of shorts in the field wiring. If a wire in the field got grounded the lamp would come on -- protecting the input and also indicating which input or output line was at fault!

Pretty nifty? An incandescent filament was also used in some glass circuit breakers so that if the breaker tripped the filament, which was connected across the breaker elements, would light up somewhat and the heat from that filament would keep the breaker tripped till the short was removed! Again, pretty nifty. Lamps were also used as voltage drop devices in some charging power supplies and by sizing the wattage of the bulb, would limit the current available thereby protecting the devices downstream and if used in a charger would limit the current to a safe level the battery under charge could use. Lamp bulbs of the incandescent type have a low resistance when not incandescing and a high resistance when lit thereby making them a dynamic resistance element!

Another use for an incandescent lamp is a 'dim bulb tester' which is nothing more than a lamp of appropriate wattage in series between a power supply and the device under test. The application is the same whether the supply is the ac mains, a battery, or some type of power supply. The bulb itself becomes the forgiving element in case of a short and serves to limit current to boot! Since incandescent bulbs produce mostly heat, they have been used to keep things warm during cold weather, and to control humidity to some degree in confined spaces. I have used two ten watt 120 volt marquee bulbs wired in series to safely dry out damp shoes overnight. Sounds a bit farfetched but it works.

Lastly, the light for incandescent bulbs is at about 2700k which is what our eyes are accustomed to as we have evolved under a yellow sun. Anything much above 3000k (that is bluish light in the 4500k and above) is not desirable or very efficient for our eyes.

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In A Nutshell

No fooling -- April is here but with a difference.

Social distancing has rendered amateur radio all the more important and helps to keep one in a healthy frame of mind as it affords the opportunity to contact others around the block and all over the world without the danger of coming in contact with pathogens.

Aside from this being at home now for the duration gives us all the chance to do all of those little things that we have been putting off in our hurried everyday routine. Keeping busy helps keep the mind in order and lets us think straight about what we can and should do. Shelter in place although it is restrictive gives us the opportunity to be with and get to know our family members better.

Amateur radio carries it a step further in that we can safely get to know others around the world and around the block better via the means of radio. Now is not a bad time for a little rag chewing. Be safe and prudent in your actions and remember that this too will pass.

Fred Wawra, W2ABE, 73.

Theoretics Demystified (Continued)

That is why blue blocking eyeglasses are being sold to combat the onslaught of 6500k extremely bright car headlights. Some of the newer cars now have color corrected headlights which are easier to look at and provide better quality illumination for our eyes. (our eyes are not very sensitive to blue light).

Most of our natural world around us is greenish or brownish depending on the time of year. All of this being said, LEDs are more efficient and now color corrected flashlights and lighting in general are now available.

One last thing: incandescent lamps were used as pilot lights in tube radios and some were wired into the tube filament string or got power from a tapped tube filament. Speaking of tubes, they are offshoot of lightbulb technology. Edison ignored (the Edison effect) it but De Forest capitalized it and thus the first amplifiers and oscillators came into being -- resulting in guess what? Radio!

Fred Wawra, W2ABE, 73.

Fair Lawn RACES/ARES Corner (Continued)

The first few Health and Welfare Nets had about 14 to 18 check-ins, lately we've had 24 to 30+ check-ins. Meanwhile, the NJ2BS Repeater is now linked to W2NPT (through KD2BKD-L) on Echolink and our coverage area (excluding Echolink) has expanded!!

This occurred on Monday, March 23rd. We've had contacts from at least four different states. A special thanks goes out to Gordon W2TTT who owns the NJ2BS Repeater and Bob KD2BKD for using his engineering know how to link the repeaters. Also, a thank you goes to Paul (W2IP) for making it happen on the W2NPT end. Brian KD2KLN, Nomar NP4H and I have been Net Control Operators and we are looking for others interested in running the Health and Welfare Net.

So, since the Fair Lawn Community Center closed, what have we done? Quite a bit of talking!! It takes a village to get things done; for us it takes an amateur radio club with many volunteers who love the hobby, to make things happen. For a while the FLARC Board had discussions about having more air time on the FLARC repeater and as the Coronavirus epidemic became a pandemic, the Repeater wound up being frequented more often.

Be well and be safe. I will see you on the air. 73

David KD2MOB



The shack of Dave/KD2MOB in Fair Lawn

ED-ITORIAL: So, What Next?

"Coronavirus" is without a doubt the word of a lifetime. Pandemics are something out of science fiction movies, *Coast to Coast AM*, or something that happens in DX countries; not here in north Jersey.

This is the new reality. And we must face it... in life and for FLARC.

Club life will not be the same. First and foremost, let's trust that we can all make it through to the submission of this virus. Most in the club are not young and play into the hands of this affliction. Many members will be reluctant to return to large social gatherings and for good reason. Some members will no doubt lose interest in the hobby as new life priorities take precedent. But some will find amateur radio to be the absorptive energy that gets them through the boredom and despair.

The clubhouse as a venue may not be the same. Restrictions on public gatherings, especially for enclosed spaces, may be in place for more than the foreseeable future.

And there may be unintended consequences that, by definition, are now unknown. One thing is for certain is that there will be change.

What we can do now is to stay in contact with each other and remain mutually supportive. The new *Health and Welfare Net* is an amazing effort in club community spirit and let's hope that it continues to grow. The linking of the W2NPT repeater with NJ2BS shows the cooperative effort to bring hams closer together. The short-term success of these efforts is nothing short of something to be proud.

When we look back, I suspect that in some ways the club will be diminished. But, hopefully, it will be stronger in ways that will continue to make FLARC the best amateur radio club around.

Like everything in life right now, the best place to be is just on the side.

DE Ed WX2R

Not Quite Yet “Au Revoir” If You Have Not Yet Paid Your Dues

The due date for member dues has been extended to **May 31st**. But don't put it off, as dues for 2020 are now being received by our Treasurer, Al WA2OWL.

Dues remain at the same level as they have for many years while the club has grown in size and activities. Renewals are \$25 per year; new members are welcomed at \$20 per year.

This year we renewed over 85% of our 2018 members; quite a feat with a base membership number of around 145.

The FLARC member count closed 2019 at 167.

Dues can be mailed directly to:

**Al Rasmussen WA2OWL
10 So. Shore Road
Denville, NJ 07834**



At Deadline:

As of the end of March, we have now renewed about 130 members.

Don't put it off — renew NOW while you're thinking about it.

Or JOIN the club if you are currently not a member.



FLARC "Year of Learning"

To be decided	How many ways do hams use CW ?	Fred W2AAB
To be decided	Logging and QSL Bureaus	Jim W2JC
What Can You Contribute To The Club??!!		

News and Notes

Steve KA2YRA noted that he had retired at the beginning of March. More time for radio at last!! Congratulations!

Check-in's for the Health and Welfare net are not being tallied. See the Near and Far net for our cumulative list of check-in's. Hopefully you'll do both on a weekly basis.

Let us know of club member news and we will pass it along. But please be sensitive about passing along medical information about specific members due to HIPAA requirements.

As of March 31st, the Great Falls special event station was still scheduled according to the National Park Service but whether it will still be held and the club's participation is still to be determined.



More On FLARC RACES/ARES

I would like to begin the FL-ARES Column on a serious note once again. As you are aware, the COVID-19 coronavirus is out and about so we, as part of emergency preparedness, have to take precautions before assisting anyone during an emergency. We have to attend to ourselves first before attending to others.

I would like to draw your attention to the Centers for Disease Control and Prevention (CDC)'s preventative measures to help ensure the health and safety of our members:

1. Avoid close contact with people who are sick.
2. Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
3. Avoid touching your eyes, nose, and mouth.
4. Clean and disinfect frequently touched objects and surfaces.
5. Stay home when you are sick, except to get medical care.
6. Wash your hands often with soap and water for at least 20 seconds.

I would like to draw your attention to the new time of the FL-ARES KB2FLA Nets. They are now taking place at 1830 hours on the FLARC Repeater. Please join us every Wednesday for any updates, messages or activities which may take place. FL-ARES would like to thank the FLARC for the use of its repeater.

Here's some more news: the W2NPT Repeater is now linked to the NJ2BS Repeater through KD2BKD-L on Echolink. With the new link, our footprint in Bergen County as well as the surrounding area on the 2 meter band has expanded! A special thanks goes out to Gordon W2TTT who owns the NJ2BS Repeater and Bob KD2BKD for linking the repeaters. Also, a thank you goes to Paul W2IP for making it happen on the W2NPT end.

The Fair Lawn ARC Repeater info is: RX 145.47 MHz / TX 144.87, PL Tone 167.9 Hz. Echolink W2NPT-R.
The NJ2BS Repeater info is: RX 146.835 MHz / TX 146.235, PL Tone 151.4 Hz. Echolink KD2BKD-L.

The FL-ARES members are preparing for emergency communications whenever necessary. Of course, this takes training and experience from our membership which currently numbers more than a dozen. We are fortunate to make Fair Lawn and the surrounding communities our home. With our leadership and support from the FLARC we can grow and be of assistance in many community events.

Continued in next column...

More On FLARC RACES/ARES, continued

ARES through the ARRL is undergoing a 21st century makeover - the timing can't be any better. Please see the ARRL-ARES article linked below.

New ARES plan aligns ARES with the needs of Served Agencies:

<http://www.arrl.org/news/new-plan-aligns-ares-with-the-needs-of-served-agencies>

Please sign up for various nets and activities taking place at the following email address:

<https://arrl.volunteerhub.com/lp/nnj>

Info on FL-RACES is as follows:

Our next FL-RACES KB2FLR net will take place on Wednesday, April 8th at 1845 hours on the Fair Lawn ARC Repeater as well as the NJ2BS Repeater (frequencies noted above). Thank you to the Fair Lawn Amateur Radio Club for permitting FL-RACES for using the repeater.

FL-RACES is part of several RACES groups which operate within Bergen County and from time to time has training opportunities with Bergen County RACES.

The volunteer efforts of our members are very much appreciated.

Our monthly meetings usually take place right after the FLARC business meeting, when held at the Rec Center. Please join us for the next FL-RACES meeting.

If you are interested in joining the Fair Lawn RACES, please contact me. Anyone who's a licensed amateur radio operator may join Fair Lawn RACES and there's no residential requirement.

For information regarding Bergen County RACES, please go to <http://www.bcnjraces.org>.

Thank you very much. 73.

DE David KD2MOB



ARRL FIELD DAY 2020 -- A TIME TO ADAPT

Many individuals and groups organizing events for ARRL Field Day <<http://www.arrl.org/field-day>> 2020 have been contacting ARRL for guidance on how to adapt their planned activities in this unprecedented time of social distancing and uncertainty.

"Due to the unique situation presented this year, this can be an opportunity for you, your club, or your group to try something new," ARRL Contest Manager Paul Bourque, N1SFE, said. "Field Day isn't about doing things the same way year after year. Use this year to develop and employ a new approach that is in line with the current circumstances."

Social distancing and state and local requirements very likely will impact just how -- and even whether -- you are able to participate in Field Day this year. ARRL continues monitoring the coronavirus situation, paying close attention to information and guidance offered by the Centers for Disease Control and Prevention (CDC) <<https://www.cdc.gov/coronavirus/2019-nCoV/index.html>>.

If social distancing means that Class A with a 30-member team set up in a city park won't work this year, then it's time for a Plan B. Part of the Field Day concept has always been adapting your operation to the situation at hand. At its heart, Field Day is an emergency communication demonstration. Field Day rules are flexible enough to allow individuals and groups to adjust their participation and strategies in a way that still addresses their needs while being fun.

Some possibilities include:

- Encouraging club members to operate from their home stations on emergency power (Class E).
- Using the club's repeater as a means for individual participants to keep in touch during the event.
- Using the club's repeater as a means for individual participants to keep in touch during the event.

- Setting up a portable station in the backyard with a temporary antenna for family members interested in operating Field Day, who are now unable to participate as part of a larger group.

One big impact this year will be a decline in public visibility and any interaction with the visitors. Prudence may dictate dispensing with the ham radio PR table to attract passersby, should you set up in a more public location. It's okay not to score all the bonus points you may have attempted in the past. Local and served agency officials may be unwilling to visit, which is understandable under the circumstances. Do be sure to reach out to them as part of your preparations and remind them that you look forward to continuing your working relationship with them in the future.

The impact will differ from place to place, so ARRL recommends that all amateur radio clubs participating in Field Day stay in regular contact with local or state public health officials for their advice and guidance on hosting Field Day activities.

"With any emergency preparedness exercise, it's not about adapting the situation to your operation; it's about adapting your operation to the situation that presents itself," Bourque said. "Try something different." Read more at --
<http://www.arrl.org/news/field-day-2020-a-time-to-adapt>

-- Thanks to
Paul Bourque, N1SFE, and Dan Henderson, N1ND



Message From The President, cont.

And importantly, let's continue to take this time and get on the bands and enjoy our hobby. The only thing I ask for all of you is to be safe and stay healthy. And don't forget to follow these steps to prevent the spread of corona virus in order to flatten the curve:

- Wash your hands often with soap and water. If not available, use hand sanitizer.
- Avoid touching your eyes, nose or mouth with unwashed hands.
- Avoid contact with people who are sick.
- Stay home when you are sick and avoid contact with others.
- Cover your mouth and nose with a tissue or sleeve when coughing or sneezing.
- Practice social distancing of 6 feet, self quarantine, and avoid gatherings no matter the size.

73, and I'll be looking for you on the radio...

Nomar, NP4H
FLARC President

Publishing *The Resonator*

As the impact of COVID-19 is just starting to be felt, the pulse of the club has undoubtedly changed. We realize this newsletter is key to keeping members together and we will strive to continue to publish.

Content is key. We need to know how you are doing and what you are doing regarding amateur radio. Combined with our nightly and weekly check-ins, it is our goal to keep morale high, people in touch, and communicate to and between all members.

Send your comments, stories and pictures to wx2r@arrl.net. We'll get everything published!

April 2020 Meeting Notes

FLARC Business Meeting Minutes 3 April 2020

President Nomar NP4H called the meeting to order at 7:30 p.m. on a video conference.

The group recited the Pledge of Allegiance.

Secretary Randy WU2S called the roll of officers and trustees and all were present. The meeting had a quorum to conduct club business.

Secretary Randy WU2S announced that the minutes from the March meeting were sent to all members of record and published in the club's newsletter, *The Resonator*, which is on the club's website at <http://newsletters.FairLawnARC.org>

He asked the members present if there were any corrections or amendments needed. There were none so Skip KD2BRV moved to accept the minutes as published and Don K2PD seconded the motion. The motion passed by acclamation.

Treasurer Al WA2OWL read this month's Treasurer's Report. Aly AL0Y moved to accept the report as presented and Van W2DLT seconded the motion. The motion passed by acclamation.

Randy WU2S reported for the Tech Committee that he donated two bookshelves and most of his electronics and radio library to the club.

Ed WX2R reported for the Publicity Committee that all speaker programs and other events are cancelled until Field Day. This includes the Great Falls special event station, World Amateur Radio Day at the club, and the Fair Lawn Street Fair.

Continued on next page.

Temporary Ham Radio Q-Codes for our times:

QLD: I am locked down.
QUA: I am quarantined.
QPD: I am in the middle of a pandemic.
QTP: I have toilet paper.
Want to trade for a new car?
QFC: I am flattening the curve.
QHG: I need a hug.
QSH: I am sheltering in place.
QHS: I have hand sanitizer.
Want to trade for two new cars?
QSD: I am observing social distancing.
QCV: I hate Coronavirus.

Submitted by both Bill NB1LL and Aly AL0Y...
they both came in about 5 minutes apart...

April 2020 Meeting Notes, cont'd

He noted that we have publicized our Health and Welfare net and it has received mentions in the ARRL newsletters, QRZ, Southgate Amateur Radio News (UK) and the ICQ Podcast (UK). Ed spoke with Bob Heil of the Ham Radio Nation podcast about a possible interview. We also have publicized our Facebook and YouTube pages of speaker videos and Thom W2NZ reports that we've added some followers. We will attempt to continue to publish The Resonator on a regular schedule. We have offered a complimentary subscription to The Resonator for those non-members who have checked in on the Health and Welfare net as both a thank you and a possible member recruitment tool while the clubhouse and activities are unavailable.

Jim W2JC reported on improvements to the FLARC web site. He is keeping the main page current. Please check there for current notices as well as to see twitter notices if you are not following us on Twitter directly. Club notices and other brief items of interest are tweeted on twitter. Follow us at @FairLawnARC on Twitter. Our private group at <https://groups.io/g/FairLawnARC/> provides an archive of messages as well as the club calendar and other files of interest, such as the club roster. Subscribing to our groups.io is the best way to keep informed of all club info.

The blog is for items longer than Twitter accepts, and for articles of general interest - including Swap&Shop and For Sale. It supplements the basic info on the website. Visit us at <http://blog.FairLawnARC.org> New postings are listed on the right-hand side, as well as previous postings by categories.

Jim W2JC reported that since we have not been on the air much lately, there are not many outgoing QSL cards! The volunteers at the Incoming QSL Bureau are still sorting incoming DX cards, but we only get a packet a couple of times per year.

David KD2MOB announced that the weekly Fair Lawn ARES net on Wednesday evenings is moving to 6:30 pm on the W2NPT repeater. This earlier time will allow the new daily FLARC health and welfare net to start at 7:00 pm daily.

Vice President John W2JLH said that we will use last year's plan for Field Day, assuming that the event is still on. He said that he will contact Ria N2RJ for guidance on this event. He said that we may consider operating from home and combining scores if that will be permitted. Dave KD2JIP asked if we had permission to use Memorial Park. Gene WO2W reported that he had already obtained permission to use the same park areas as we had used last year. John W2JLH asked members to email him with ideas for operating Field Day.

Continued in next column.

April 2020 Meeting Notes, cont'd

President Nomar NP4H reminded members that both the Fair Lawn Recreation Center and the Senior Center remain closed until further notice.

Vice President John W2JLH said the donor's plaque is in progress and will be completed after we return to normal operations.

President Nomar NP4H noted that while our planned Coffee Talk series of presentations is on hold; we could consider using a video conference to conduct these sessions. A discussion of future coffee talks ensued and Vice President John W2JLH agreed to arrange the sessions and schedule Zoom video conferences with Randy WU2S.

President Nomar NP4H said that members should send their dues to Treasurer Al WAOWL via mail if they have not yet renewed their membership. He noted that the Council is considering other ways to allow members to pay their dues. A discussion ensued about using PayPal and it was decided to contact Bennett KO2OK, who uses PayPal for the Bergen County FM Association, to get advice based on his experience.

Secretary Randy WU2S mentioned that our Earth Day event is cancelled. He noted that our daily health and welfare net on the W2NPT repeater at 7:00 pm is going well. President Nomar NP4H said that we have 20 to 25 check-ins daily. He thanked Gordon W2TTT and Bob KD2BKD for arranging an Echolink linkup between the W2NPT repeater and the NJ2BS repeater to extend coverage.

Thom W2NZ reported that our YouTube channel added 18 subscribers in the last month, giving us a total of 418.

The members discussed their experiences in obtaining groceries during the present emergency.

Having no further business, President Nomar NP4H asked for a motion to adjourn. John W2JLH so moved and Skip KD2BRV seconded the motion. The members present voted in favor and the meeting was adjourned at 8:23 p.m.

Secretary Randy WU2S reports that 41 members participated in this video conference business meeting.

Respectfully submitted,

Randy WU2S
Secretary